

Soldering Tools and Equipment for Electronics Assembly

OKI

METCAL

www.okinternational.com



Soldering Tools & Equipment for Electronics Assembly

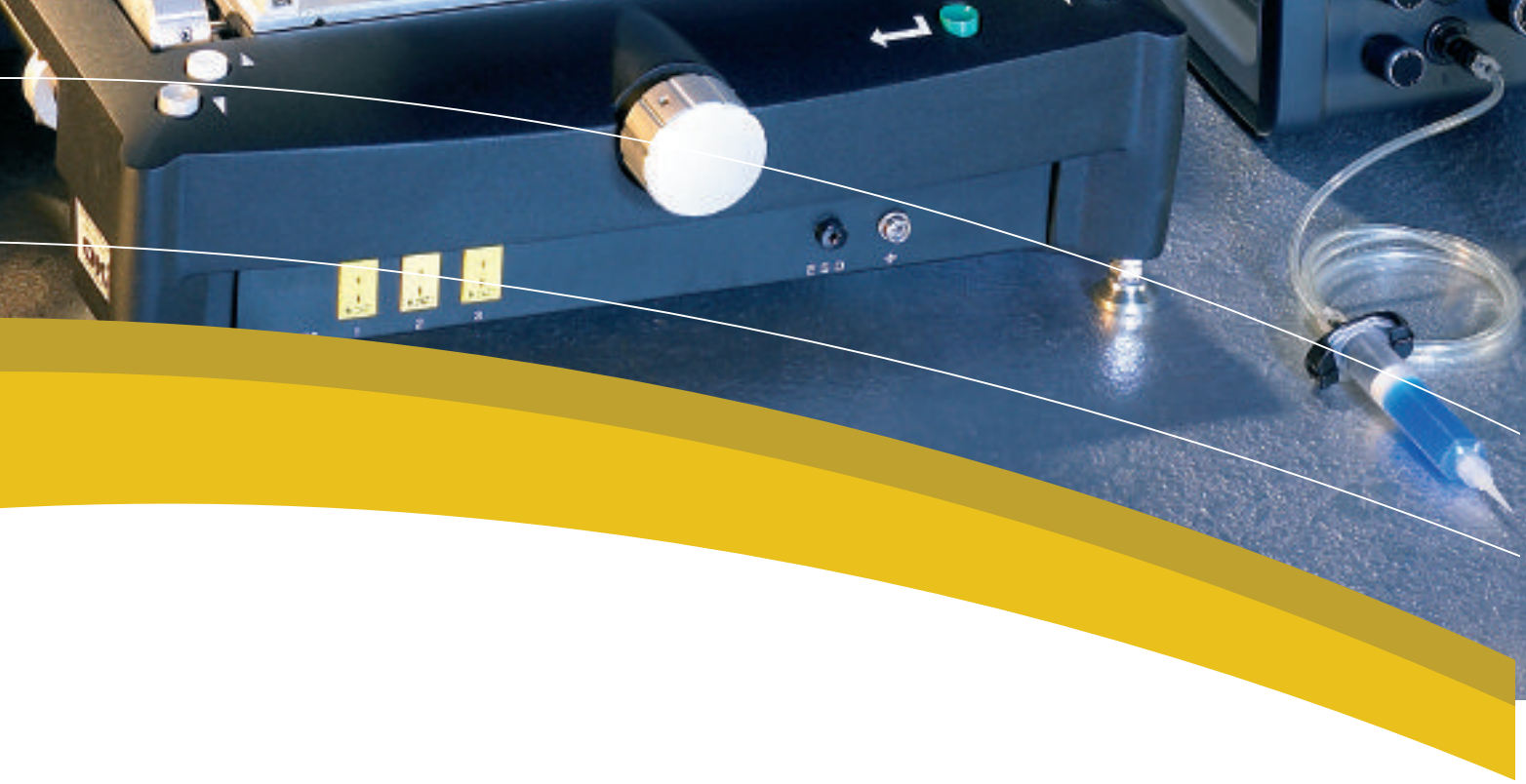
OK International has been a leading manufacturer of tools and equipment for electronics assembly for over 60 years. Our roots go back to 1946, when we specialized in precision machining of metal parts primarily for the defence industry.

Throughout the years, we have strengthened our core competencies in the manufacturing and development of soldering and rework systems, as well as fluid dispensing and fume extraction products.

At OK International, we fully understand the processes and challenges of electronics assembly. By working closely with component, materials and reflow oven manufacturers, and by sharing knowledge with industry associations around the globe, we've refined our industry knowledge and developed innovative technologies.

For today's market, we are ideally positioned to be your lead-free process partner. We are helping our customers worldwide with the equipment, process knowledge, training and support needed to succeed in a lead-free world.

Our products in the key areas of hand soldering, rework, fume extraction and material deposition are all designed for optimum performance. With OK International, you can rest assured that your processes are second to none in terms of quality, reliability, repeatability and profitability.



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Hand Soldering and Rework

As the industry has been rapidly changing, our soldering, desoldering and rework systems have evolved to keep up with lead-free processes and the demand for fast, yet high performance. Our comprehensive line of soldering, desoldering and rework systems includes both Metcal and OKi brand products.

Our OKi line of systems includes the MFR (Multi-function Rework Systems) and PS (Production Soldering) Platforms. These systems are high-performance, yet competitively priced. Our MFR Series features versatile tools that not only expertly perform rework, they also have tools for SMT and through-hole soldering. The PS-800E is the perfect compact system for repetitive manual soldering and touch-up.

Our product lines and systems are continuously tested and updated to make sure they provide a true benefit to your processes. Our popular Metcal Systems, have been updated with a series of SmartHeat® PowerTips®, designed to address the high thermal demands of lead-free alloys and other high thermal demand applications without the need to increase temperature.

In addition, we also have two convection tools. The HCT-900 Hand Held Convection Tool is ideal for removing components from 0201 up to 304 pin QFP, as well as reworking through-hole devices such as sockets and connectors. And, our newest addition to our soldering range is the PCT-100 Pre-heater Convection Tool that provides targeted heat for improved speed and efficiency for high thermal demand applications, including lead-free.

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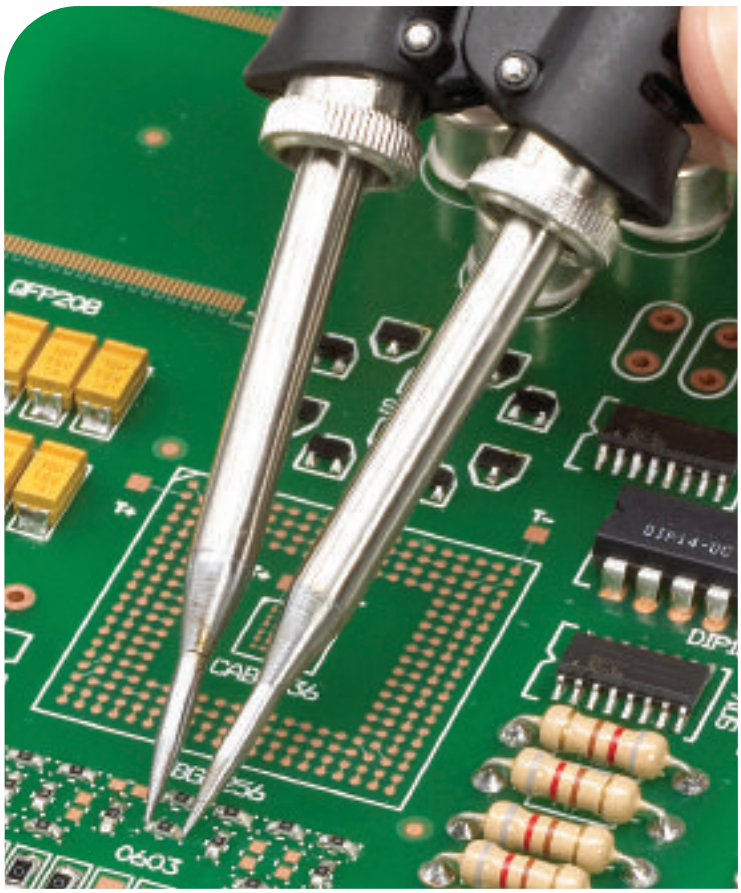
SmartHeat® Technology



Savvy electronic production engineers define success by how they maximize their productivity, yield, and product reliability. All of these factors depend directly upon process control. To achieve success, OK International has developed SmartHeat® conduction soldering systems which uniquely sense the exact thermal requirement for each solder joint and respond by delivering the precise amount of thermal energy at the rate required to create a reliable connection. The result is a high degree of control without resorting to higher tip idle temperatures required by conventional ceramic heater technologies. Consequently the risk of component / board damage is minimized, especially important with the greater thermal demands required by lead-free applications.

As you'll see below, SmartHeat® provides unique benefits in the delivery of high reliability low risk conduction soldering solutions, especially with lead-free alloys. All of these add up to provide a highly consistent level of process control.

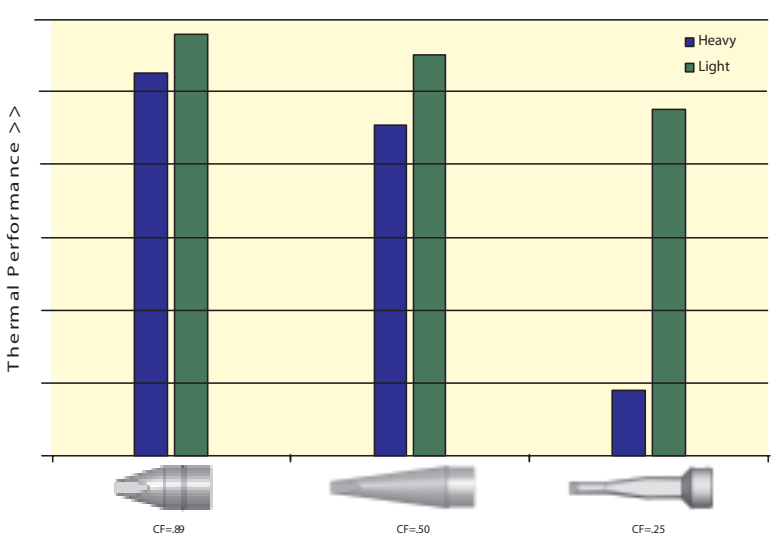
SmartHeat® Delivers Direct Power



First and foremost, the success of conduction soldering depends upon the availability and controlled flow of thermal energy into the connection during the two critical phases - flux activation and intermetallic bond formation. Lead-free alloys, with higher thermal demands, further heighten these requirements. Conventional ceramic heaters attempt to control this process by managing indirect parameters, such as the tip idle temperature. In contrast, SmartHeat® Technology senses the specific thermal demand directly at the solder pad and delivers the precise quantity and flow of thermal energy during both phases to ensure a reliable connection.

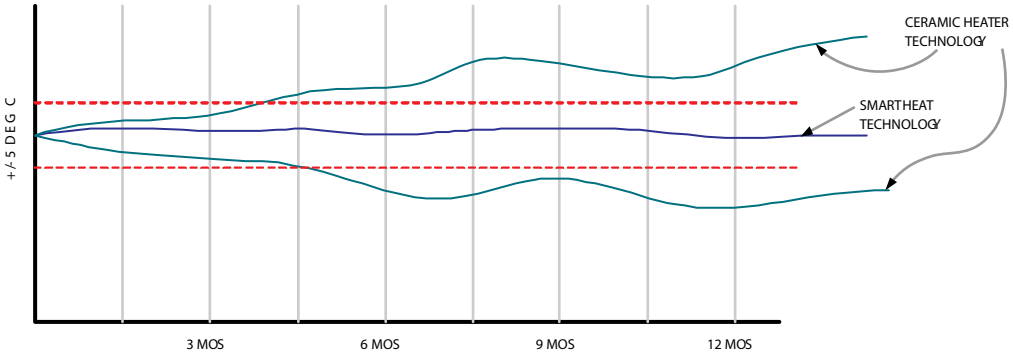
Precision Tip Selection - The Conductivity Factor

During the execution of a successfully soldering connection, the tip is the thermal energy "highway" from the heater to the pad and, therefore, the choice of tip geometry is critical to prevent power losses. In addition to providing the most thermally efficient tip designs, OK International has pioneered the tip "Conductivity Factor" rating system providing operators with quantifiable guidance in the selection of the optimum tip geometry. Additionally, our proprietary Power Meter can quantify exact pad energy requirements, further refining the tip selection process. Lead-free alloys, with tighter thermal demands, make these tools mandatory.



Temperature stability - No Need for Calibration

Nearly all industry standards associated with conduction soldering performance cite temperature stability as a key requirement. To meet the demands of temperature stability, conventional ceramic heater systems depend on the sensor, heater and operator set point controls. Each of these elements is subject to drift and instability requiring frequent calibration and certification to ensure compliance. By contrast, the repeatability of SmartHeat® Technology is inherently determined by the molecular properties of the heater material and does not shift over time. ensuring long term stability without the need for calibration.

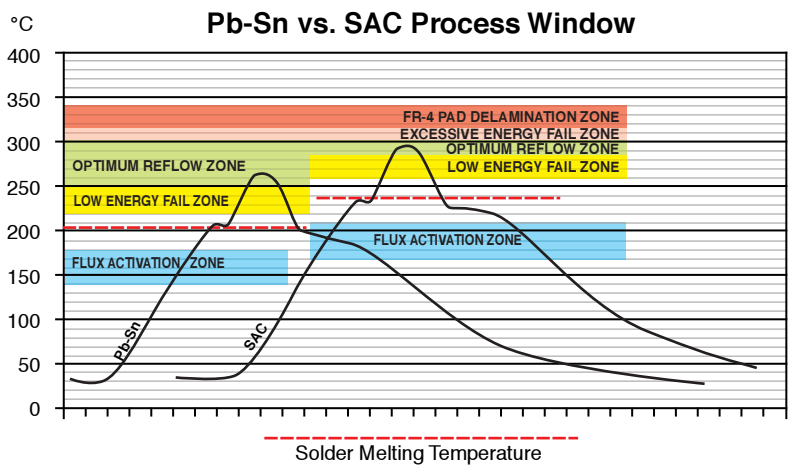


Reduced Risk of Overshoot

Conventional soldering stations strive to control the process with tip temperature using thermocouple sensors and ceramic heaters. Inherent with this technology will be significant temperature variances throughout the tip body and consequently thermal overshoot/undershoot. The risk is unreliable solder connections or damaged components. SmartHeat® Technology, on the other hand, detects and controls the energy requirement of the pad, avoiding thermal delivery variances thereby eliminating the risk of component damage.

Perfect for Lead-Free

The steps required for reliable lead-free connections parallel those for traditional alloys except that the thermal demands are greater. The typical operator response to the higher thermal demand is to increase tip idle temperature - unfortunately at higher temperatures the contribution to thermal performance is negligible. More importantly, the increase in tip idle temperature comes dangerously close to component and substrate damage levels making process control critical. Compared to conventional technology, SmartHeat® combined with our Precision Tip Selection tools delivers precise process control assuring consistently reliable connections at low operating temperatures which provide the thermal performance necessary for lead-free.



Increase Tip Life and Value

The useful life of a tip is dependent upon many factors including flux corrosion, oxidation and tin dissolution. With higher tip idle temperatures, the contribution from these factors is dramatically increased. The resultant de-wetting from these chemical surface interactions causes many operators to increase tip force, which significantly accelerates tip life deterioration. With the advantages of SmartHeat® Technology operators can solder at lower temperatures and, combined with proper tip selection and care, dramatically extend tip life and value.

MFR Multi Function Rework Systems



The All in One Solution

Imagine performing all of your production soldering, rework and desoldering tasks with just one tool. The new Multi Function Rework Systems (MFR) not only expertly perform rework, they also have tools for SMT and through-hole soldering. These flexible systems feature two switchable outputs with a comprehensive choice of tools that support today's complex PCB and component technologies.

Systems are configured with the following tools

- Soldering and Rework
- Precision Tweezer
- Production Soldering
- Adjustable Desoldering Hand-Piece



Perfect for Lead-Free

The MFR Series uses SmartHeat® Technology to deliver the power required for lead-free connections. SmartHeat® Technology's variable power instantaneously senses and continuously delivers the precise thermal energy to the pad, yielding high quality solder joints while protecting sensitive components from damage.

Tip and Cartridge Options

With the MFR Series you can use heater tips or tip cartridges, each filling a specific need. Heater tips are cost effective to meet the demands of point to point, production soldering. While tip cartridges are suited for high performance and rework applications. Both options incorporate the popular quick change design OK tips are well known for, which eliminates the maintenance associated with traditional irons. The OK cartridge tip has the slimmest diameter allowing access to the tightest applications and its single piece design provides a secure ground connection protecting sensitive components.

Versatilty, Performance and Value

These high performance systems can be adapted to your exact needs, whether it is cost effective production soldering, more complicated rework cartridges, handling small components with the unique Precision Tweezer hand-piece or performing through-hole desoldering.

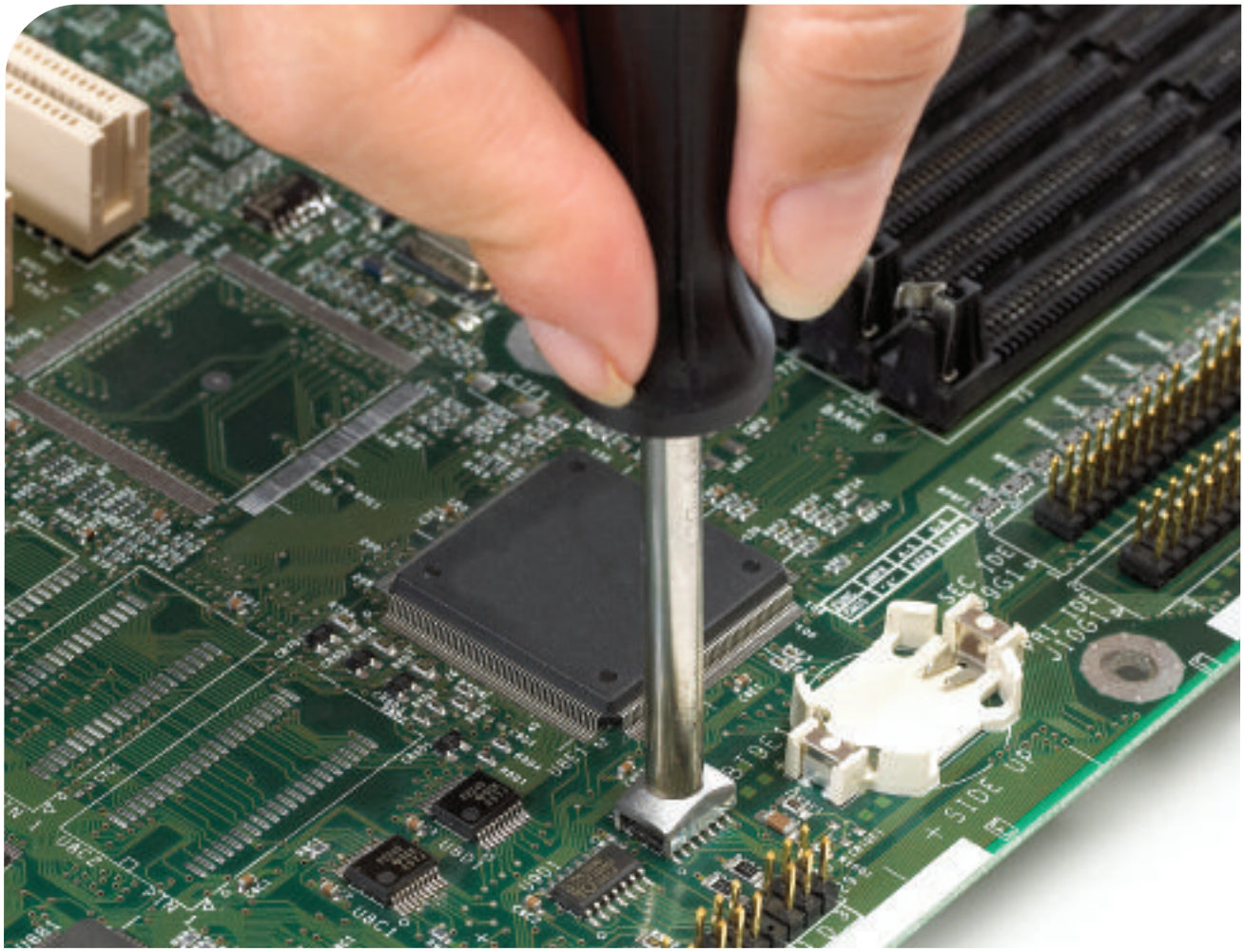
All units include “Auto Standby” and “Auto Off” functions which can be programmed to activate on different timing to help tip life, especially when working on a lead-free process. Proprietary built-in motion detection then brings the unit back to life when the operator lifts the hand-piece from a cradle. In addition, a specially designed lead-free workstand provides efficient tip cleaning and maintenance options.

And, when multiple units are used on the same bench or for the same process, smart mechanical design allows for the units to be interlocked, maximizing bench space.

Comfort and Simplicity

The short tip-to-grip distance of the MFR hand-piece improves process precision for fine pitch applications. The cartridge system provides the slimmest shaft for maximum access whilst the precision tweezer design enables rework of the smallest chips and resistors, such as 0201 chips. Ergonomic design delivers superior performance with operator comfort and control.





Soldering and Rework System

Cartridge heater technology provides soldering and rework performance to suit even the most demanding SMT removal and placement applications.The cartridge provide fast thermal performance and respond quickly to the load demands. A small shaft diameter provides access to tightly cramped rework areas and enables the most difficult operations to be performed effortlessly.

Auto Standby function
to help save tip life.

MFR-SRC Soldering & Rework System

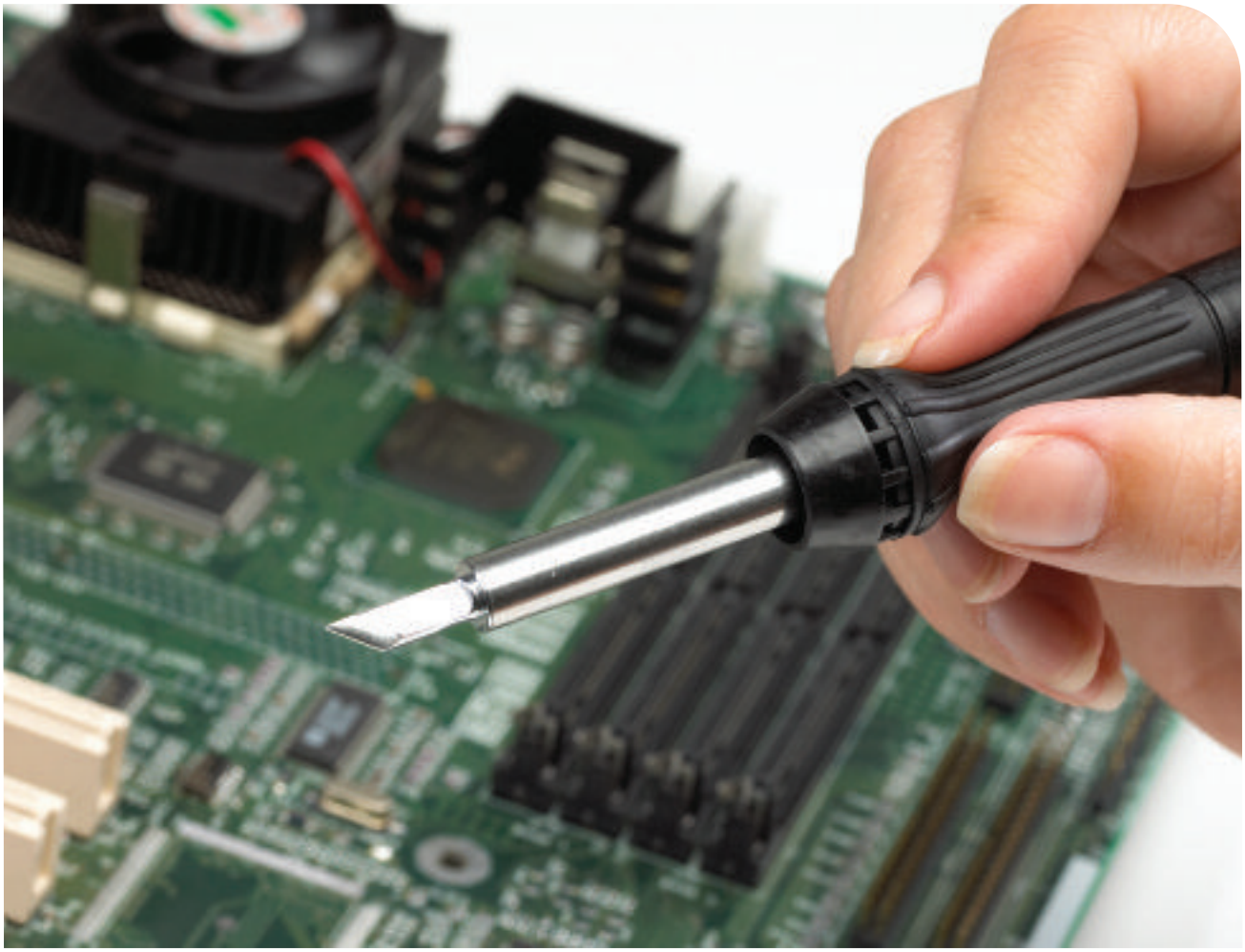
Part No.	Description
MFR-SRC	Soldering and Rework System
Includes	
MFR-PS1K	Switched Two-Port Univeral Voltage Power Supply
MFR-HSR	Soldering and Rework Hand-piece
MFR-WSSR	Soldering Workstand
Also available separately (more accessories on page 27)	
MFR-SRC-AD	Solder / Rework Upgrade Kit (hand-piece and workstand)



Uses SFP and RFP Cartridges, see pages 17-18



Hand-piece with Cartridge



Production Soldering System

The Production Solder Tip System is designed for production soldering applications where superior SmartHeat Technology is needed to provide the performance for lead-free, but with a lower cost of ownership due to the innovative tip design. The two-piece, long life heater and cost effective tip design provide a viable production alternative for regular and lead-free soldering.

MFR-PST Production Soldering System

Part No.	Description
MFR-PST	Production Soldering System
Includes	
MFR-PS1K	Switched Two-Port Univeral Voltage Power Supply
MFR-HPS	Production Soldering Hand-piece and Coil Assembly
MFR-WSSR	Soldering Workstand
Also available separately (more accessories on page 27)	
MFR-PST-AD	Solder Tip Upgrade Kit (hand-piece and workstand)
MFR-CA2	Coil Assembly Replacement

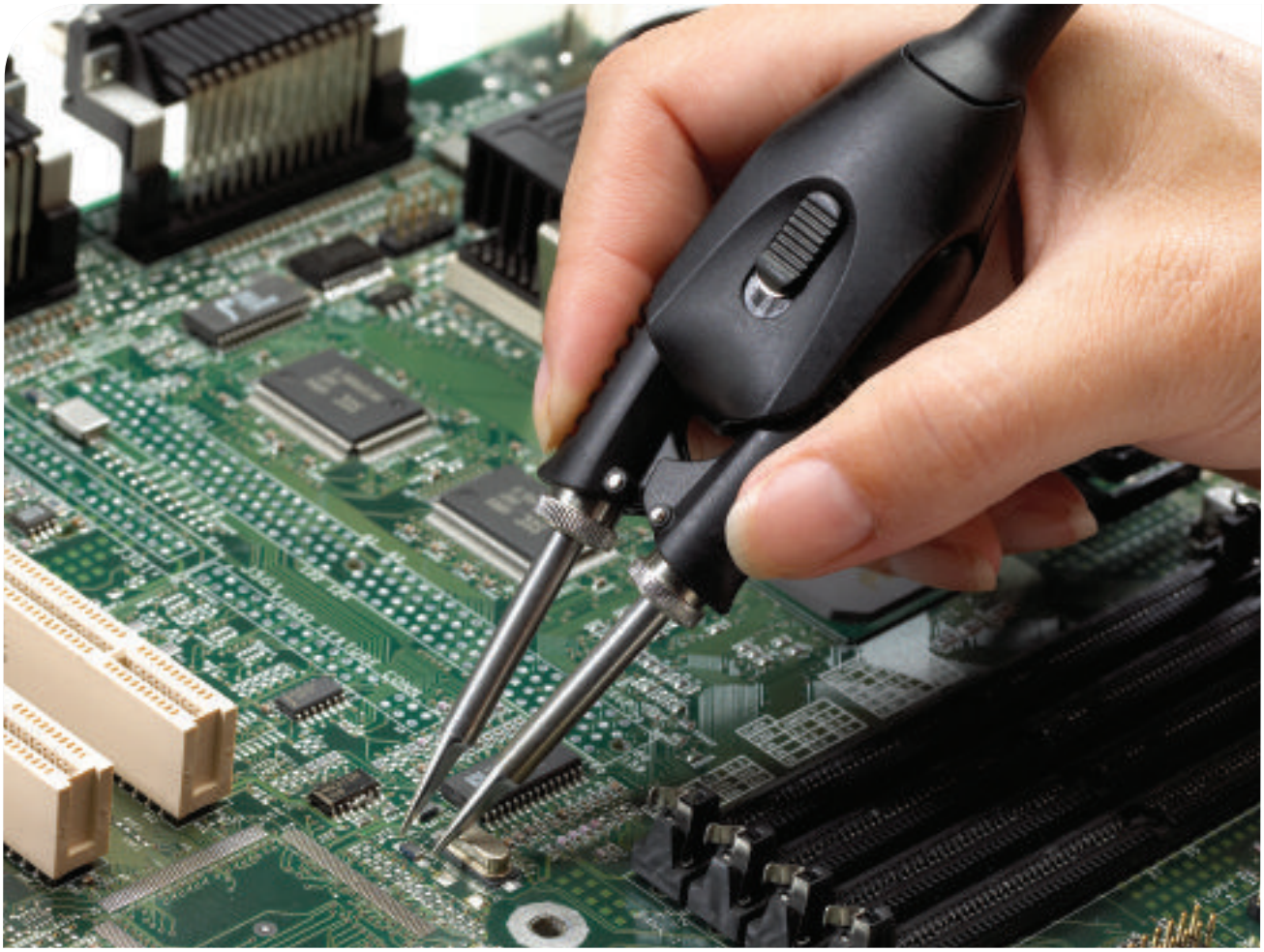
Auto Standby function to help save tip life.



Uses SFV tips, see pages 19-20



Hand-piece with MFR-CA2 Coil Assembly and SFV tip



Precision Tweezer, Soldering and Rework System

The Precision Tweezer has been ergonomically designed to be lightweight and easy to use for removing even the smallest of discrete components, such as 0201 packages. the Precision Tweezer has a double sided pivot for ìtrue tweezerî action and a dual position pitch adjustment to help the operator target the component to skillfully complete the application.

Auto Standby function to help save tip life.



MFR-PTZ Precision Tweezer, Soldering & Rework System

Part No.	Description
MFR-PTZ	Production Tweezer, Soldering and Rework System
Includes	
MFR-PS1K	Switched Two-Port Universal Voltage Power Supply
MFR-HPT	Precision Tweezer Hand-piece
MFR-WSPT	Tweezer Workstand
MFR-HSR	Cartridge Solder / Rework Hand-piece
MFR-WSSR	Soldering Workstand

Note: This system can also be ordered with the Precision Tweezer hand-piece and workstand alone (Part no. MFR-PTW)

Also available separately (more accessories on page 27)

MFR-PTZ-AD	Precision Tweezer Tip Upgrade Kit (hand-piece and workstand)

Uses TFP cartridges, see page 18





Versatile Pencil and Pistol Grip Combination Hand-piece System

The MFR Desoldering Systems provide superior thermal transfer to the joint, effectively reflowing the solder and then quickly and efficiently removing all solder. SmartHeat® Technology makes through-hole desoldering easy and safe from board damage. The state-of-the-art hand-piece can be adjusted from a pencil to a gun with a simple press of a button. Operators can find the most comfortable and efficient position to tackle the rework challenge. The paper solder collection chamber and filter system is quick and easy to change, and provides low cost maintenance.

Two MFR Desoldering Systems are avaliable. The MFR-DSX system requires shop air for desoldering. If shop air is not avaliable, the MSF-DSI features an internal vacuum pump.

Part No.	Description
MFR-DSX	Desolder System, External Air
MFR-DSI	Desolder System, Internal Air Pump
System Includes	
MFR-PS2X	Switched Two-Port Universal Voltage Power Supply, External Air (MFR-DSX only)
MFR-PS2K	Switched Two-Port Universal Voltage Power with Internal Air Pump (MFR-DSI only)
MFR-HDS	Desolder Hand-piece
MFR-WSDS	Desolder Workstand

Complete MFR System for Soldering, Desoldering and Rework

See Accessories page 27

The MFR Soldering / Desoldering Systems include both the innovative desoldering hand-piece and the solder/rework cartridge hand-piece to cover all your rework needs.

Two MFR Soldering / Desoldering Systems are available. The MFR-SDX system requires shop air for desoldering. If shop air is not available, the MFR-SDI features an internal pump that provides suction.



Part No.	Description
MFR-SDX	Solder / Desolder System, External Air
MFR-SDI	Solder / Desolder System, Internal Air Pump
Systems Includes	
MFR-PS2X	Switched Two-Port Universal Voltage Power Supply, External Air (MFR-SDX only)
MFR-PS2K	Two-Port Universal Voltage Power with Internal Air Pump (MFR-SDI only)
MFR-HSR	Soldering and Rework Hand-piece
MFR-WSSR	Soldering Workstand
MFR-HDS	Desoldering Hand-piece
MFR-WSDS	Desoldering Workstand

Uses DFP tips, see page 19

PS-800E Soldering System



Compact Production Soldering System

Designed to be the perfect, compact system for repetitive manual soldering and touch-up. The PS-800E Soldering System features an innovative, compact power supply with a small footprint which is ideal for production environments. The system combines the power and superior process control advantages of SmartHeat®, with the system quality and innovative design of OK International irons. In addition, the PS-800E Soldering System utilizing SmartHeat® Technology requires no calibration.

Cost of Ownership

The PS-800E Soldering System uses replaceable heater tips rather than cartridges, with the cost being comparable to conventional tips, making cost of ownership competitive. The unique two-piece design separates the induction coil from the heater tip. The long-life induction coil remains in the handle, while replaceable heater tips are easily removed and replaced.

You can now choose between two types of coil assembly. The PS-CA2 is designed for heavy loads and can be used with a comprehensive line of thermally optimised, large diameter and high power soldering tip geometries (SFV series). The PS-CA1 is ideal for light to medium loads and comes with a series of fine and small diameter tips (PHT series). Both series of tips include an additional iron plating for longer life.

Perfect for Lead-Free Hand Soldering

The most important technical challenge of lead-free hand soldering is being able to solder heat sensitive components at 215-220°C, without causing damage. This requires a soldering iron that can respond to the thermal energy demands of the application and deliver the correct amount of energy to the joint without overshoot that can cause damage.



OK International's PS-800E Soldering System is perfect for lead-free soldering. SmartHeat® Technology allows the higher thermal performance requirements of lead-free alloys to be met without increasing the tip temperature. Thus, the risk of thermal damage is eliminated.

The PS-800E Soldering System allows operators to produce high quality product quickly, easily and safely. It is a reliable, hassle-free production tool that can be used ot solder lead-free PCBs immediately without needing to be continually re-calibrated to meet higher temperature requirements like traditional technologies.

PS-800E High Power Soldering System

Part No.	Description
PS-800E	PS-800E High Power Soldering System
Includes	
PS-PW1	Power Supply
WS2	Autosleep Workstand with Sponge and Brass Cleaning Pad
PS-HC2	PS-800E Soldering Handle with PS-CA2 High Power Coil Assembly for SFV tips

PS-800E uses SFV tips, see pages 19-20



PS-CA2 Coil Assembly and SFV tip (PS-800E)

PS-800 Soldering System

same as above but suppied with PS-HC1 Soldering Handle with PS-CA1 Coil Assembly for PHT Tips

PS-800 uses PHT tips, see pages 20-21



PS-CA1 Coil Assembly and PHT tip (PS-800)

Specifications

Power Supply	
Ambient Operating Temperature	10 - 40°C
Maximum Enclosure Temperature	65°C
Input Line Voltage	90 - 240 VAC
Input Line Frequency	50/60 Hz
Power Consumption	50 Watts max.
Output Power	35 Watts max. at 22°C ambient temperature
Output Frequency	470 KHz
Power Cord (3-wire)	183cm (72")
Dimensions (W x D x H)	70mm x 161mm x 100mm (2.76" x 6.34" x 3.94")

Now comes with NEW Auto Sleep Workstand for improved tip life.

See accessories and Lead-Free upgrades on page 27.

MX-500 Soldering, Desoldering and Rework



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.

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
MX-RM3E	Rework Hand-Piece with Cord
WS1	Universal auto-sleep workstand - black
AC-YS3	Sponge
AC-CP2	Cartridge Removal Pad

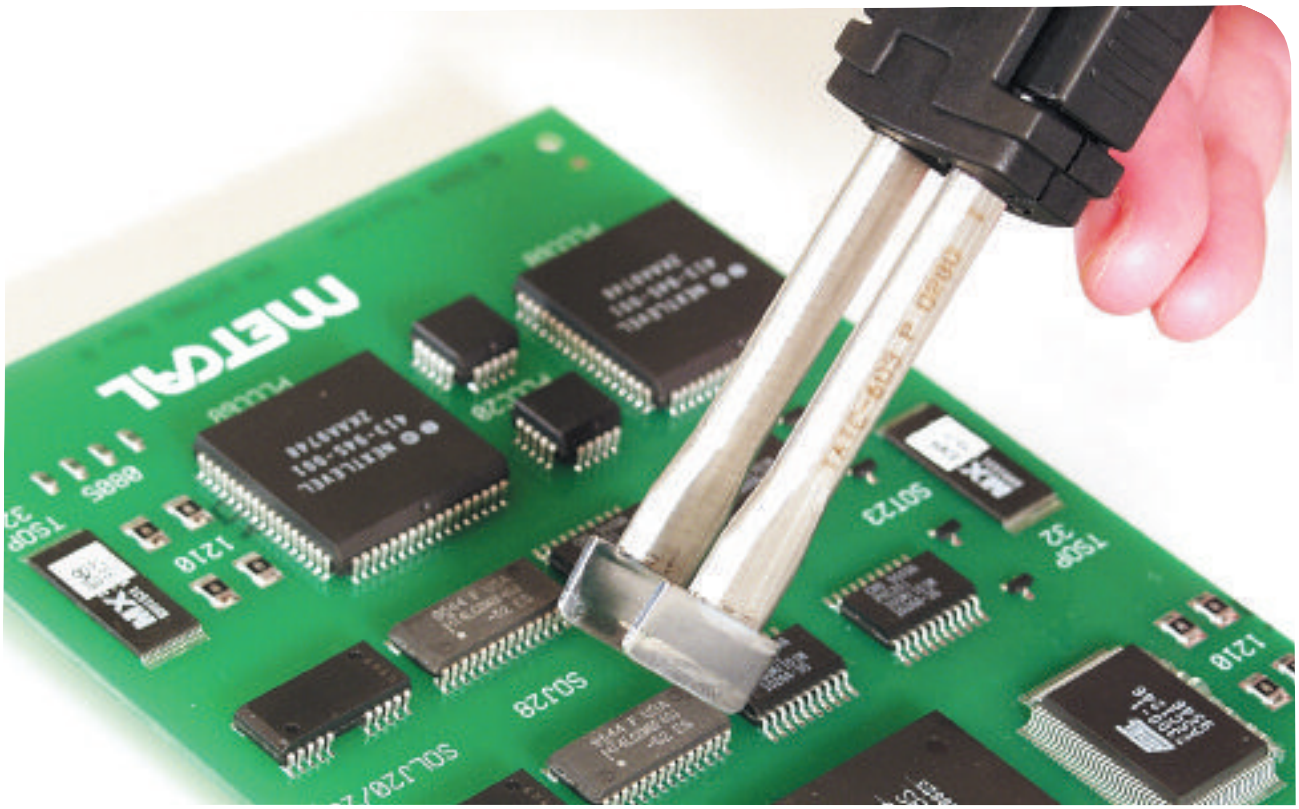




Now comes with NEW Auto Sleep Workstand for improved tip life.



Uses STTC & SMTC Cartridges, see page 21-25



Versatility Without Compromise

With two switchable outputs, the system can be adapted to your exact needs, using two tools to configure the most powerful bench-top soldering/rework system on the market. The easy-squeeze design of Metcal's Talon® tweezers has been ergonomically designed for superior performance, unmatched comfort and optimum control.

MX-500TS SMT Rework/Talon® System

Part No.	Description
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
MX-TALON	Talon® Hand-Piece with Cord
WST	Talon® Workstand with YS3 Sponge
MX-RM3E	Rework Hand-Piece with Cord
WS1	Universal auto-sleep workstand - black
AC-YS3	Sponge (2)
AC-CP2	Cartridge Removal Pad (2)



Uses TATC Cartridges, see page 25

Talon® Upgrade Kits

Part No.	Description
MX-TALON-01	Talon® Upgrade Kit
Includes	
MX-TALON	Talon® Hand-Piece with Cord
WST	Talon® Workstand with YS3 Sponge
AC-YS3	Sponge
AC-CP2	Cartridge Removal Pad

MX-PTZ Precision Tweezers

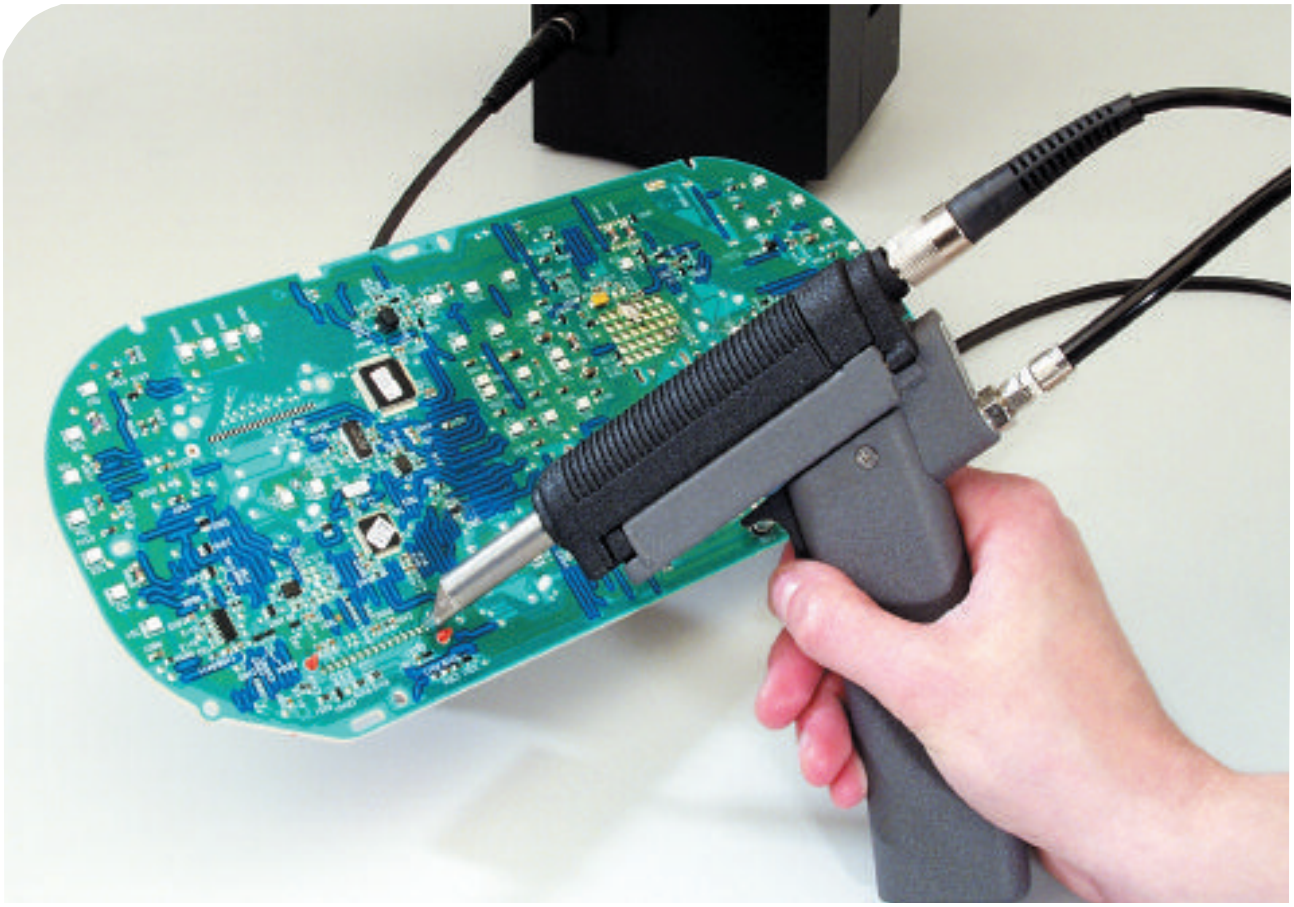
Part No.	Description
MX-500SPT-11	Two Port Solder/Rework System, 115 VAC*
MX-500SPT-21	Two Port Solder/Rework System, 230 VAC*
MX-PTZ-AD	Precision Tweezer Upgrade Kit (Handpiece & Workstand)
MX-PTZ	Precision Tweezer Hand-piece Only

** Includes: two port power supply, soldering & tweezer hand-pieces, auto-sleep workstands, sponges, & cartridge removal pads.*

New Product



Uses PTTC Cartridges, see page 25



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.



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
MX-DS1	Desoldering Hand-Piece
MX-RM3E	Rework Hand-Piece with Cord
MX-RM8E	Desoldering Cord
MX-DAH4	ESD Air Hose with Fitting
MFR-WSDS	Desoldering Workstand
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
WS1	Universal auto-sleep workstand - black

Desolder Upgrade Kit

Part No.	Description
MX-D001	Desolder Upgrade Kit
Includes	
MX-DS1	Desoldering Hand-Piece
MX-RM8E	Desoldering Cord
MX-DAH4	ESD Air Hose with Fitting
MFR-WSDS	Desoldering Workstand
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

Uses STDC Cartridges, see page 26

SP200 Soldering System



Economical Soldering System Cuts Costs, Not Corners

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.

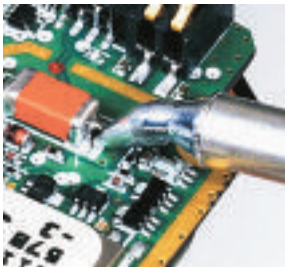
SP200 Soldering System

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

Now comes with NEW Auto Sleep Workstand for improved tip life.





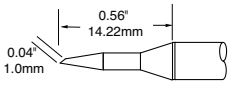


Uses SSC Cartridges, see page 26

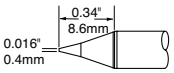
Soldering Cartridges

for MFR-SRC System and MFR-HSR Hand-piece

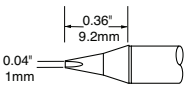




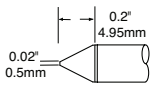
SFP-BVL10
Bevel Cartridge
60° 1.0mm (.04")



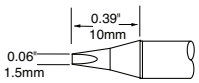
SFP-CN04
Chisel Cartridge
30° Bent 1.5mm (.06")



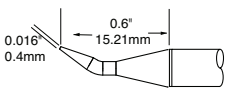
SFP-CH10
Chisel Cartridge
30° 1.0mm (.04")



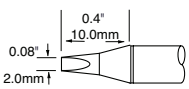
SFP-CN05
Conical Cartridge
0.5mm (.02")



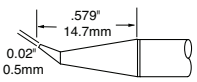
SFP-CH15
Chisel Cartridge
30° 1.5mm (.06")



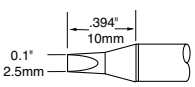
SFP-CNB04
Conical Cartridge Bent
0.4mm (.016")



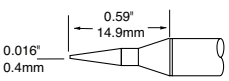
SFP-CH20
Chisel Cartridge
30° 2.0mm (.08")



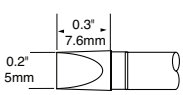
SFP-CNB05
Conical Cartridge Bent
0.5mm (.02")



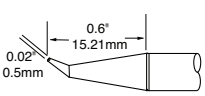
SFP-CH25
Chisel Cartridge
30° 2.5mm (.10")



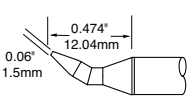
SFP-CNL04
Conical Cartridge Long
Reach 0.4mm (.016")



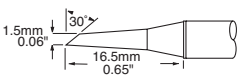
SFP-CH50
Chisel Cartridge
30° 5.0mm (.20")



SFP-DRH05
Drag Soldering Cartridge
Hook, 0.5mm (.02")



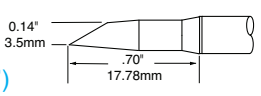
SFP-CHB15
Chisel Cartridge
30° Bent 1.5mm (.06")



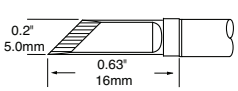
SFP-DRH15
Drag Soldering Cartridge
Hoof, 1.5mm (.06")



SFP-CHL20
Chisel Cartridge 60°
Long Reach 1.57mm (.062")



SFP-DRH35
Drag Soldering Cartridge
Hook, 3.5mm (.14")



SFP-DRK50
Drag Soldering Cartridge
Knife, 5.0mm (.20")

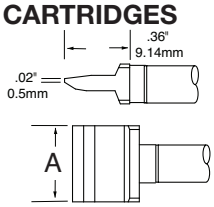
The second digit denotes substrate material (damage tolerance). **F**= FR4 / Glass Fiber, for most standard applications. Two other series are also available, just replace F with either T or C. **T** = Temperature Sensitive, **C** = Ceramic

Rework Cartridges

for MFR-SRC System and MFR-HSR Hand-piece

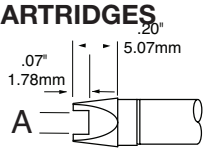


BLADE CARTRIDGES



Part No.	Description	A
RFP-BL1	Blade Cartridges	10mm (0.4")
RFP-BL2	Blade Cartridges	16mm (0.63")
RFP-BL3	Blade Cartridges	22mm (0.87")

SLOT CARTRIDGES



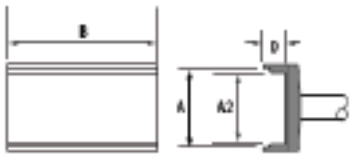
Part No.	SMT TYPE	A
RFP-SL1	0805 Chip Package	2.34mm (.092")
RFP-SL2	1206 Chip Package	3.48mm (.137")

The second digit denotes substrate material (damage tolerance). **F**= FR4 / Glass Fiber, for most standard applications. Also available in C Series, **C** = Ceramic

Rework Cartridges

for MFR-SRC System and MFR-HSR Hand-piece

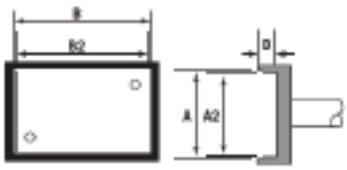
TUNNEL CARTRIDGES



Part No.	SMT TYPE	A2	A	B	D
RFP-DL1	SOIC 14-16	5.18mm (.204")	5.18mm (.204")	4.32mm (.17")	3.22mm (.127")
RFP-DL2	SOIC 8	5.18mm (.204")	5.18mm (.204")	4.32mm (.17")	2.29mm (.090")
RFP-QD13	SOIC 16	6.86mm (.270")	6.86mm (.270")	11.18mm (.44")	2.29mm (.090")

The second digit denotes substrate material (damage tolerance). **F**= FR4 / Glass Fiber, for most standard applications. Also available in C Series, **C** = Ceramic.

QUAD CARTRIDGES



Dimensions in mm (")

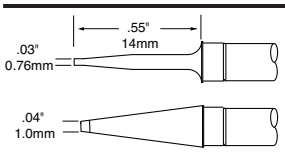
Part No.	SMT TYPE	A2	A	B2	B	D
RFP-QD4	PLCC 32	11.43 (.450)	12.70 (.500)	13.97 (.550)	15.24 (.600)	3.81 (.150)
RFP-QD6	PLCC 44	16.76 (.660)	17.78 (.700)	16.76 (.660)	17.78 (.700)	3.81 (.150)
RFP-QD7	PLCC 68	24.38 (.960)	25.27 (.995)	24.38 (.960)	25.27 (.995)	5.59 (.220)
RFP-QD10	PLCC 52	19.30 (.760)	20.32 (.800)	19.30 (.760)	20.32 (.800)	3.81 (.150)
RFP-QD15	TQFP 80	12.32 (.485)	13.34 (.525)	12.32 (.485)	13.34 (.525)	2.79 (.110)
RFP-QD19	QFP 44	16.13 (.635)	16.13 (.635)	16.13 (.635)	16.13 (.635)	3.30 (.130)
RFP-QD20	QFP 100	16.51 (.650)	16.51 (.650)	22.48 (.885)	22.48 (.885)	3.30 (.130)

The second digit denotes substrate material (damage tolerance). **F**= FR4 / Glass Fiber, for most standard applications. Also available in C Series, **C** = Ceramic.

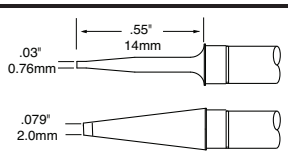
Tweezer Cartridges

for MFR-PTZ System and MFR-HPT Hand-piece

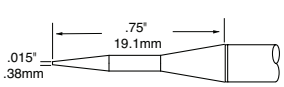
PRECISION TWEEZER CARTRIDGES



TFP-BLP1
Tweezer Cartridge
Blade Pair
1.0mm (.04")



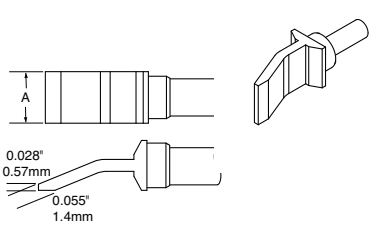
TFP-BLP2
Tweezer Cartridge
Blade Pair
2.0mm (.08")



TFP-CNP1
Tweezer Cartridge
Conical Pair
0.4mm (.015")

The second digit denotes substrate material (damage tolerance). **F**= FR4 / Glass Fiber, for most standard applications. Two other series are also available, just replace F with either T or C. **T** = Temperature Sensitive, **C** = Ceramic

STANDARD TWEEZER CARTRIDGES



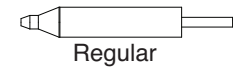
Part No.	Description	A
TFP-BLH40	Heavy Duty Tweezer Pair	6.35mm (.25")
TFP-BLH50	Heavy Duty Tweezer Pair	16mm (.62")
TFP-BLH60	Heavy Duty Tweezer Pair	20.5mm (.81")
TFP-BLH70	Heavy Duty Tweezer Pair	28mm (1.1")

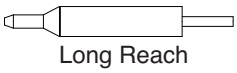
The second digit denotes substrate material (damage tolerance). **F**= FR4 / Glass Fiber, for most standard applications. Two other series are also available, just replace F with either T or C. **T** = Temperature Sensitive, **C** = Ceramic

Desoldering Tips

for MFR-DSX,-DSI, -SDX and -SDI Systems







Part No.	Description	Ø A	Ø B
DFP-CN2	Desolder Tip	0.67mm (.026")	0.67mm (.026")
DFP-CN3	Desolder Tip	0.79mm (.031")	2.05mm (.080")
DFP-CN4	Desolder Tip	1.05mm (.041")	2.30mm (.090")
DFP-CN5	Desolder Tip	1.31mm (.052")	2.65mm (.104")
DFP-CN6	Desolder Tip	1.55mm (.061")	2.85mm (.112")
DFP-CN7	Desolder Tip	2.44mm (.096")	3.65mm (.143")
DFP-CNL3	Desolder Tip Long Reach	0.79mm (.031")	2.05mm (.080")
DFP-CNL4	Desolder Tip Long Reach	1.05mm (.041")	2.30mm (.090")
DFP-CNL5	Desolder Tip Long Reach	1.31mm (.052")	2.65mm (.104")

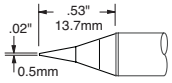
The second digit denotes substrate material (damage tolerance). **F**= FR4 / Glass Fiber, for most standard applications. Also available in C Series, **C** = Ceramic.

Soldering Tips

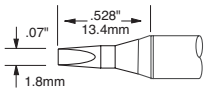
for MFR-PST and PS-800E Systems with MFR-CA2 and PS-CA2 coils

EASY ACCESS SOLDERING TIPS *for longer reach touch up applications*

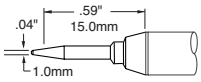




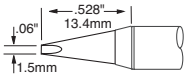
SFV-CN05A
Conical Solder Tip
0.5mm (.02")



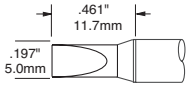
SFV-CH18A
Fine Solder Tip
1.8mm (.07")



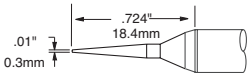
SFV-CNL10A
Conical Long Solder Tip
1.0mm (.04")



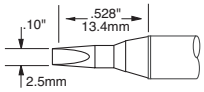
SFV-CH15A
Chisel Solder Tip
1.5mm (.06")



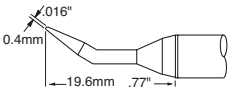
SFV-CH50A
Chisel Solder Tip
5.0mm (.197")



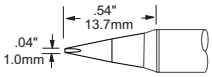
SFV-CNL03A
Conical Long Solder Tip
0.3mm (.01")



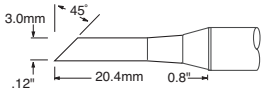
SFV-CH25A
Chisel Solder Tip
2.5mm (.10")



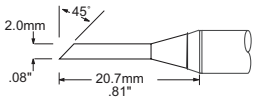
SFV-CNB04A
Conical Bent Solder Tip
0.4mm (.016")



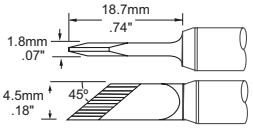
SFV-CH10A
Chisel Solder Tip
1.0mm (.04")



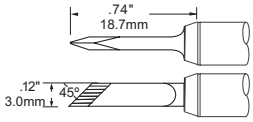
SFV-DRH430A
Drag Solder Tip
Hoof, 3.0mm (.12")



SFV-DRH420A
Hoof Solder Tip 45°
2.0mm (.08")

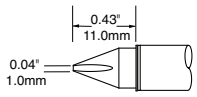


SFV-DRK45A
Knife Solder Tip
4.5mm (.177")

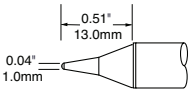


SFV-DRK30A
Knife Solder Tip
3.0mm (.12")

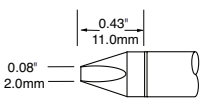
SOLDERING TIPS *for heavy duty applications*



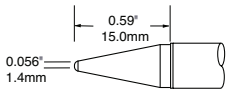
SFV-CH10
Chisel Solder Tip
30° 1.0mm (.04")



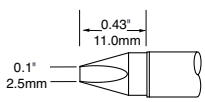
SFV-CNL10
Conical Long Solder Tip
1.0mm (.04")



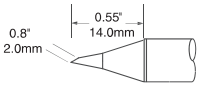
SFV-CH20
Chisel Solder Tip
2.0mm (.08")



SFV-CNL14
Conical Long Solder Tip
1.4mm (.056")



SFV-CH25
Chisel Solder Tip
2.5mm (.10")

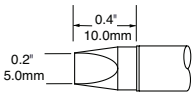


SFV-DRH20
Conical Bevel Solder Tip
2.0mm (.08")

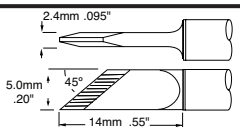
Soldering Tips

for MFR-PST and PS-800E Systems with MFR-CA2 and PS-CA2 coils

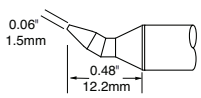
SOLDERING TIPS *for heavy duty applications*



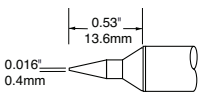
SFV-CH50
Extra Large Chisel Solder Tip
5.0mm (.20")



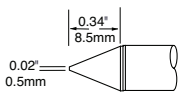
SFV-DRK50
Knife Solder Tip
5.0mm (.20")



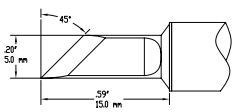
SFV-CHB15
Chisel Bent 30°Solder Tip
1.5mm (.06")



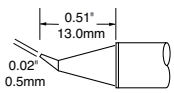
SFV-CNL04
Conical Long Solder Tip
0.4mm (.016")



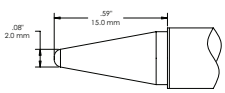
SFV-CN05
Conical Solder Tip
0.5mm (.02")



SFV-DRK50S
Drag Soldering Tip
Knife 5.0mm (.20")



SFV-CNB05
Conical Bent Solder Tip
0.5mm (.02")



SFV-CNL20
Conical Tip Long
2.0mm (.08")

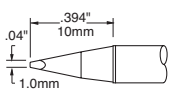
The second digit denotes substrate material (damage tolerance). **F**= FR4 / Glass Fiber, for most standard applications. Two other series are also available, just replace F with either T or C. **T** = Temperature Sensitive, **C** = Ceramic

Soldering Tips

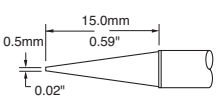
for PS-800 System with PS-CA1 Coil



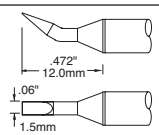
SOLDERING TIPS *ideal for light to medium loads*



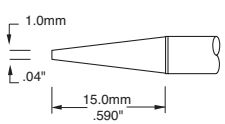
PHT-750315
Chisel Fine 30°
1.0mm (.04")



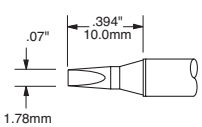
PHT-753035
Conical 30°
0.5mm (.02")



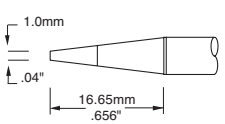
PHT-750326
Chisel Fine/Bent 30°
1.5mm (.06")



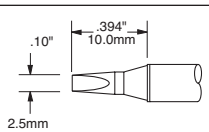
PHT-753067
Conical Long
1.0mm (.04")



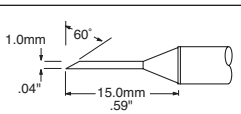
PHT-750335
Chisel Fine 30°
1.78mm (.07")



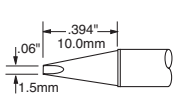
PHT-753077
Power Conical
1.0mm (.04")



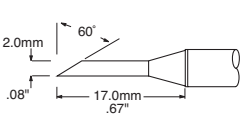
PHT-751355
Chisel 30°
2.5mm (.10")



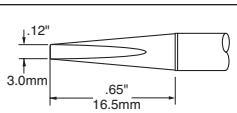
PHT-754627
Mini Hoof 60°
1.0mm (.04")



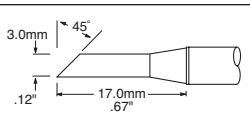
PHT-750325
Chisel 60°
1.5mm (.06")



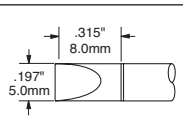
PHT-754667
Hoof 60°
2.0mm (.08")



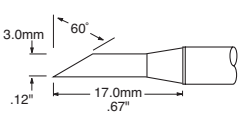
PHT-751367
Chisel 30°
3.0mm (.12")



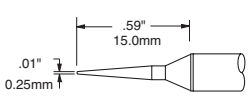
PHT-754487
Hoof 45°
3.0mm (.12")



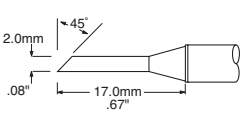
PHT-751384
Chisel 30°
5.0mm (.197")



PHT-754687
Hoof 60°
3.0mm (.12")



PHT-752017
Conical 60°
0.25mm (.01")



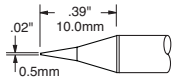
PHT-754467F
Hoof 45° Face Only
2.0mm (.08")

75 = 750 Series for most standard applications. **65** = 650 Series also available for temperature sensitive applications. To order this series, replace 75 with 65.

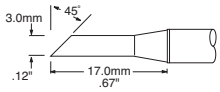
Soldering Tips

for PS-800 System with PS-CA1 Coil

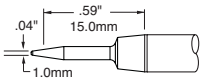




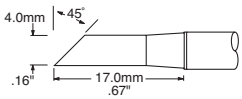
PHT-752035
Conical Fine
0.5mm (.02")



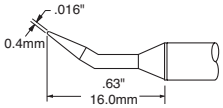
PHT-754487F
Hoof 45° Face Only
3.0mm (.12")



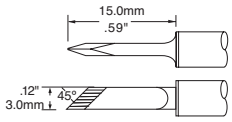
PHT-752057
Conical Fine
1.0mm (.04")



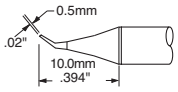
PHT-754497F
Hoof 45°
4.0mm (.16")



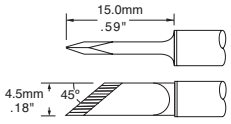
PHT-752327
Conical Fine/Bent
0.4mm (.016")



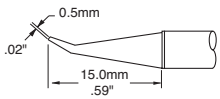
PHT-755437
Knife Sharp 45°
3.0mm (.12")



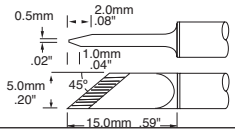
PHT-752335
Conical Fine 30°
0.5mm (.02")



PHT-755457
Knife Sharp 45°
4.5mm (.18")



PHT-752337
Conical Fine/Bent 30°
0.5mm (.02")



PHT-755477
Knife Bevel 45°
5.0mm (.20")

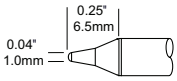
75 = 750 Series for most standard applications. **65** = 650 Series also available for temperature sensitive applications. To order this series, replace 75 with 65.

Soldering & Rework Cartridges

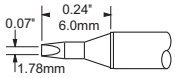
for Metcal MX-500 Series



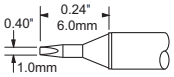
SOLDERING CARTRIDGES *Optimised geometries for Lead Free*



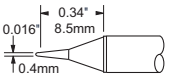
STTC-101P
Conical Sharp
1mm (.04")



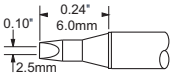
STTC-137P
Chisel 30°
1.8mm (.07")



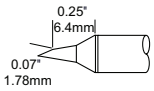
STTC-125P
Chisel 30°
1mm (.04")



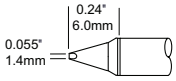
STTC-145P
Conical
0.4mm (.016")



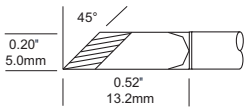
STTC-136P
Chisel 30°
2.5mm (.10")



STTC-147P
Bevel 60°
1.78mm (.07")



STTC-138P
Chisel 35°
1.4mm (.06")

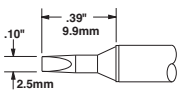


STTC-1173P
Knife
5.0mm (.22")

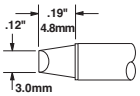
1 = 700 Series for most standard applications. Only 700 Series available.

STANDARD SOLDERING CARTRIDGES *Frequently used geometries*

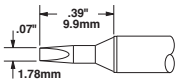




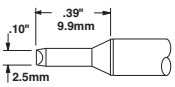
STTC-136*
Chisel 30°
2.5mm (.10")



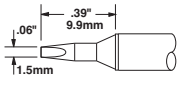
STTC-113*
Chisel 90°
3.0mm (.12")



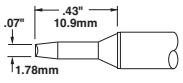
STTC-137*
Chisel 30°
1.78mm (.07")



STTC-133
Chisel 90°
2.5mm (.10")



STTC-138*
Chisel 30°
1.5mm (.06")



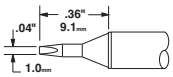
STTC-104
Chisel 90°
1.78mm (.07")

Soldering & Rework Cartridges

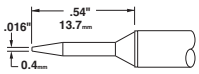
for Metcal MX-500 Series



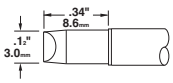
STANDARD SOLDERING CARTRIDGES *Frequently used geometries*



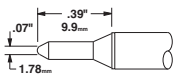
STTC-125*
Chisel 30°
1.0mm (.04")



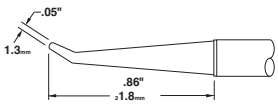
STTC-106
Conical Sharp
0.4mm (.16")



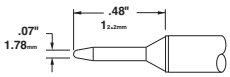
STTC-103*
Chisel 90°
3.0mm (.12")



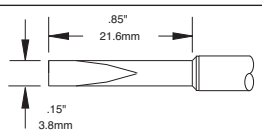
STTC-132
Conical Sharp
1.78mm (.07")



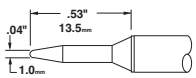
STTC-141*
Chisel 30°
1.3mm (.05")



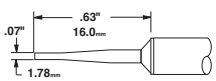
STTC-102
Conical Sharp
1.78mm (.07")



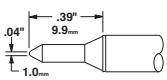
STTC-120
Long Reach Chisel 12°
3.8mm (.15")



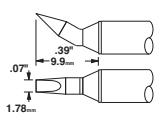
STTC-101
Conical Sharp
1.0mm (.04")



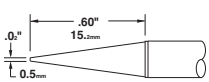
STTC-142
Long Reach Chisel 60°
1.78mm (.07")



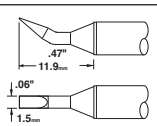
STTC-131
Conical Sharp
1.0mm (.04")



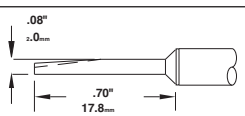
STTC-198
Chisel Bent 30°
1.78mm (.07")



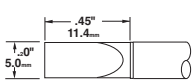
STTC-143*
Conical Sharp
0.5mm (.02")



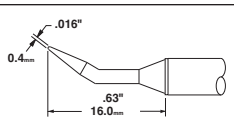
STTC-199
Chisel Bent 30°
1.5mm (.06")



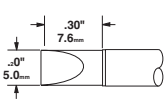
STTC-183
Conical Grooved
2.0mm (.08")



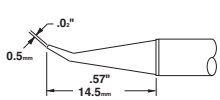
STTC-165
Large Chisel
5.0mm (.20")



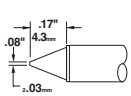
STTC-140*
Sharp Bent 30°
0.4mm (.016")



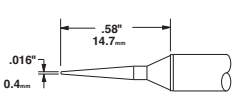
STTC-117*
Extra Large Chisel
5.0mm (.20")



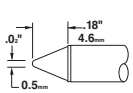
STTC-144*
Sharp Bent 30°
0.5mm (.02")



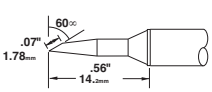
STTC-112
Conical
2.3mm (.08")



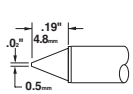
STTC-145
Conical
0.4mm (.016")



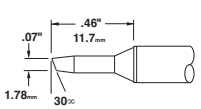
STTC-111
Conical
0.5mm (.02")



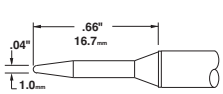
STTC-147
Bevel 60°
1.78mm (.07")



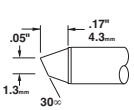
STTC-116*
Conical
0.5mm (.02")



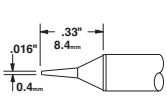
STTC-105
Bevel 30°
1.78mm (.07")



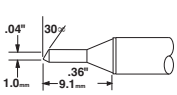
STTC-107
Conical Sharp
1.0mm (.04")



STTC-115
Bevel 30°
1.3mm (.05")



STTC-122
Conical Sharp
0.4mm (.16")



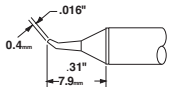
STTC-124
Bevel 30°
1.0mm (.04")

1 = 700 Series for most standard applications. **0** = 600 series and **5** = 500 series also available for temperature sensitive applications.
8 = 800 Series for ceramic applications, only available for *. To order these series, replace 1 with either 0, 5 or 8.

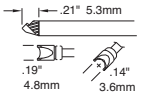
Soldering & Rework Cartridges

for Metcal MX-500 Series

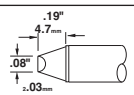




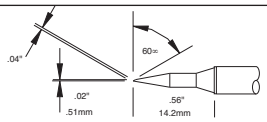
STTC-**1**26*
Sharp Bent 30°
0.4mm (.016")



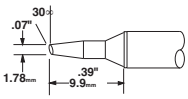
STTC-**1**97
Groved Semi-Rigid
Coax



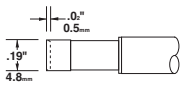
STTC-**1**14
Bevel 45°
2.3mm (.08")



STTC-**1**46
Long Reach Bevel 60°
1.0mm (.04")



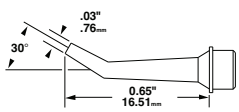
STTC-**1**35
Bevel 30°
1.78mm (.07")



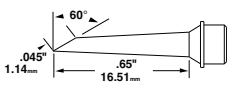
STTC-**1**70
Heat Staking
4.8mm (.19")

1 = 700 Series for most standard applications. **0** = 600 series and **5** = 500 series also available for temperature sensitive applications.
8 = 800 Series for ceramic applications, only available for *. To order these series, replace 1 with either 0, 5 or 8.

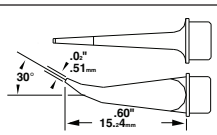
MICRO FINE REWORK CARTRIDGES *For reworking 0201 and 0402 or microfine components in tight spaces*



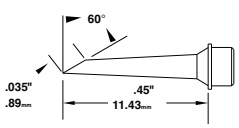
SMTC-**1**171
Conical Bent 30°
0.76mm (.03")



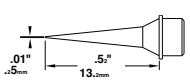
SMTC-**1**174
Long Reach Micro Hoof
1.14mm (.045")



SMTC-**1**172
Conical Bent 30°Fine
0.51mm (.02")



SMTC-**1**175
Long Reach Micro Hoof
0.89mm (.035")

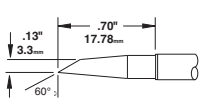


STTC-**1**90*
Conical Microfine
0.25mm (.01")

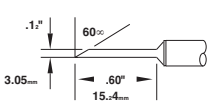
1 = 700 Series for most standard applications. **0** = 600 series and **5** = 500 series also available for temperature sensitive applications.
8 = 800 Series for ceramic applications, only available for *. To order these series, replace 1 with either 0, 5 or 8.



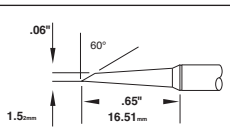
HOOF AND KNIFE CARTRIDGES *For Drag Soldering*



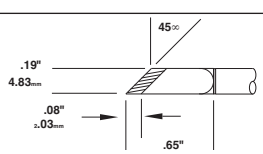
SMTC-**1**147*
Hoof
3.3mm (.13")



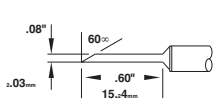
SMTC-**1**170**
Long Reach Hoof
3.05mm (.12")



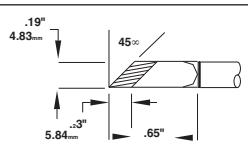
SMTC-**1**167**
Mini-Hoof
1.52mm (.06")



SMTC-**1**161*
Knife - Tinned Area
2.03mm (.08")



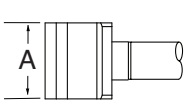
SMTC-**1**169**
Long Reach Hoof
2.03mm (.08")



SMTC-**1**173
Knife - Increased Tinned Area
5.84mm (.23")

Same as above. * = Not available for 800 Series ** = Not available for 500 and 800 Series

BLADE CARTRIDGES



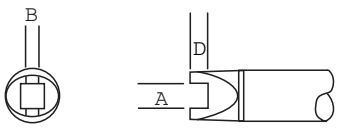
Part No.	Description	A
SMTC-**1**110**	Dual Heater Quad	39.37mm (1.55")
SMTC-**1**62	Blade Cartridges	22.10mm (0.870") Long
SMTC-**1**61	Blade Cartridges	15.75mm (0.620") Long
SMTC-**1**60	Blade Cartridges	10.41mm (0.410") Long
SMTC-**1**63**	Dual Heater Blade	45.46mm (1.79") Long
SMTC-**1**64**	Short Blade	5mm (0.20")

Same as above. ** = Not available for 500 and 800 Series

Rework Cartridges

for Metcal MX-500 Series

SLOT CARTRIDGES



Dimensions in mm (")

Part No.	SMT TYPE	A	B	D
SMTC-101	Chip 0805	2.29 (.090)	1.27 (.050)	1.79 (.070)
SMTC-102	Chip 1206, 1210	3.56 (.140)	1.52 (.060)	1.79 (.070)
SMTC-103	Chip 1808, 1812	4.83 (.190)	2.03 (.080)	1.91 (.075)
SMTC-135	Chip, Box A (EIA SOPM-3224)	3.43 (.135)	2.03 (.080)	3.05 (.120)
SMTC-132	Chip, Box A (EIA SOPM-3528)	3.81 (.150)	2.41 (.095)	2.54 (.100)
SMTC-136	Melf, Box B (EIA SOPM-4532)	4.83 (.190)	2.79 (.110)	4.06 (.160)
SMTC-133*	Chip, Box C (EIA SOPM-6032)	6.35 (.250)	2.41 (.095)	3.30 (.130)
SMTC-134*	Chip, Box D (EIA SOPM-7246)	7.62 (.300)	2.54 (.100)	3.56 (.140)
SMTC-105	SOT-23	1.73 (.068)	2.54 (.100)	1.27 (.050)
SMTC-108	SOT-89	2.80 (.110)	6.35 (.250)	2.03 (.080)
SMTC-188	Chip 0402, 0603, 0805 (angled)	2.03 (.080)	1.27 (.050)	1.52 (.060)
SMTC-196	Chip 0402, 0603	1.78 (.070)	1.02 (.040)	1.02 (.040)

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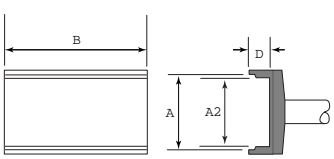
TUNNEL CARTRIDGES

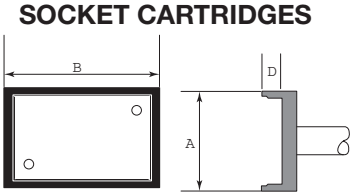


Dimensions in mm (")

Part No.	SMT TYPE	A2	A	B	D
SMTC-147	DPAC	8.51 (.335)	8.51 (.335)	6.35 (.250)	5.08 (.200)
SMTC-1107	SO-8	8.13 (.320)	9.65 (.380)	19.05 (.750)	6.10 (.240)
SMTC-146*	SO-16	8.38 (.330)	8.38 (.330)	12.07 (.475)	5.84 (.230)
SMTC-068**	SO-8	8.51 (.335)	8.51 (.335)	16.90 (.665)	6.35 (.250)
SMTC-104	SOIC-8	5.08 (.200)	5.08 (.200)	4.32 (.170)	2.29 (.090)
SMTC-106	SOIC-14,-16	5.08 (.200)	5.08 (.200)	10.16 (.400)	2.29 (.090)
SMTC-1142	SOIC-14	5.18 (.204)	5.18 (.204)	8.89 (.350)	2.54 (.100)
SMTC-177	SOIC-24	7.11 (.280)	7.11 (.280)	15.75 (.620)	3.18 (.125)
SMTC-1124	SOIC-16	8.13 (.320)	8.13 (.320)	11.94 (.470)	6.86 (.270)
SMTC-110	SOIC-20	9.53 (.375)	9.53 (.375)	13.21 (.520)	3.18 (.125)
SMTC-109	SOIC-24	9.53 (.375)	9.53 (.375)	15.75 (.620)	3.18 (.125)
SMTC-107	SOIC-28, SOL-34	9.53 (.375)	9.53 (.375)	18.29 (.720)	3.18 (.125)
SMTC-142	SOIC-32	13.21 (.520)	13.21 (.520)	20.45 (.805)	4.32 (.170)
SMTC-126	SOJ-28, SOM-36	8.00 (.315)	8.64 (.340)	18.80 (.740)	1.88 (.074)
SMTC-1140	SOJ-32, 34	8.00 (.315)	8.64 (.340)	21.34 (.840)	3.18 (.125)
SMTC-140	SOJ-40, SOM-32	10.41 (.410)	11.43 (.450)	25.91 (1.02)	1.91 (.075)
SMTC-1148	SOJ-42	10.41 (.410)	11.43 (.450)	27.18 (1.07)	3.18 (.125)
SMTC-120	SOMC-14,-16	6.86 (.270)	6.86 (.270)	11.18 (.440)	2.29 (.090)
SMTC-1138	SOP-20	6.86 (.270)	6.86 (.270)	7.24 (.285)	2.54 (.100)
SMTC-139	SOP-28	10.67 (.420)	10.67 (.420)	18.29 (.720)	3.18 (.125)
SMTC-1134*	SOP-40	11.68 (.460)	12.95 (.510)	25.40 (1.00)	3.18 (.125)
SMTC-183	SOP-44	12.95 (.510)	14.35 (.565)	27.18 (1.07)	2.67 (.105)
SMTC-195	TSOP-28	11.94 (.470)	12.83 (.505)	8.13 (.320)	1.65 (.065)
SMTC-1154	TSOP-40	18.54 (.730)	19.30 (.760)	10.16 (.400)	3.05 (.120)
SMTC-1162	TSOP-56	18.54 (.730)	19.30 (.760)	14.12 (.556)	3.05 (.120)
SMTC-084**	TSOP-32	18.54 (.730)	19.30 (.760)	8.13 (.320)	3.05 (.120)

1 = 700 Series for most standard applications. **0** = 600 series available for temperature sensitive applications. To order this series, replace 1 with 0. * = Not available for 600 Series ** = Not available for 700 Series

SOCKET CARTRIDGES

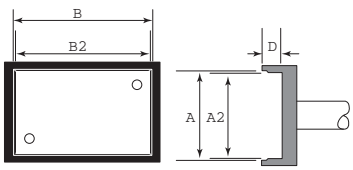


Dimensions in mm (")

Part No.	SMT TYPE	A	B	D
SMTC-1144	PLCC-20 Socket	9.14 (.360)	9.14 (.360)	2.91 (.115)
SMTC-1109	PLCC-32 Socket	11.58 (.456)	14.12 (.556)	3.05 (.120)
SMTC-1145	PLCC-84 Socket D	40.64 (1.16)	40.64 (1.16)	2.91 (.115)

1 = 700 Series for most standard applications. **0** = 600 series available for temperature sensitive applications. To order this series, replace 1 with 0.

QUAD CARTRIDGES



Dimensions in mm (")

Part No.	SMT TYPE	A2	A	B2	B	D
SMTC-1121	SQFP 48 (EIAJ)	8.38 (.330)	8.38 (.330)	8.38 (.330)	8.38 (.330)	2.54 (.100)
SMTC-1120	SQFP 64 (EIAJ)	11.18 (.440)	11.18 (.440)	11.18 (.440)	11.18 (.440)	2.54 (.100)
SMTC-1159	TQFP 44	11.18 (.440)	12.19 (.480)	12.19 (.480)	13.21 (.520)	2.79 (.110)
SMTC-1132	TQFP 80	12.32 (.485)	13.34 (.525)	12.32 (.485)	13.34 (.525)	2.79 (.110)
SMTC-1115	QFP 48	13.97 (.550)	13.97 (.550)	13.97 (.550)	13.97 (.550)	3.30 (.130)
SMTC-1118	VQFP 100 (EIAJ)	14.48 (.570)	15.49 (.610)	14.48 (.570)	15.49 (.610)	2.79 (.110)
SMTC-1133	QFP 128 (3.2 mm fp)	15.75 (.620)	15.75 (.620)	21.84 (.860)	21.84 (.860)	3.30 (.130)
SMTC-121	QFP 44	16.13 (.635)	16.13 (.635)	16.13 (.635)	16.13 (.635)	3.30 (.130)
SMTC-143	QFP 100 (rectangular)	16.51 (.650)	16.51 (.650)	22.48 (.885)	22.48 (.885)	3.30 (.130)
SMTC-115	QFP 64, 80	17.15 (.675)	17.15 (.675)	23.11 (.910)	23.11 (.910)	3.30 (.130)
SMTC-145**	QFP 100	20.45 (.805)	20.45 (.805)	20.45 (.805)	20.45 (.805)	4.83 (.190)
SMTC-1122	QFP 144	20.45 (.805)	21.34 (.840)	20.45 (.805)	21.34 (.840)	1.91 (.075)
SMTC-186	QFP 132	25.02 (.985)	25.91 (1.02)	25.02 (.985)	25.91 (1.02)	3.18 (.125)
SMTC-144**	QFP 100 (square)	26.42 (1.040)	26.42 (1.04)	26.42 (1.040)	26.42 (1.04)	3.30 (.130)
SMTC-181	QFP 208 DUAL	28.58 (1.125)	44.96 (1.77)	28.58 (1.125)	44.96 (1.77)	2.90 (.114)
SMTC-148	QFP 120,160 DUAL	29.59 (1.165)	30.48 (1.20)	29.59 (1.165)	30.48 (1.20)	3.05 (.120)
SMTC-1125	PQFP 240 DUAL	32.77 (1.290)	33.78 (1.33)	32.77 (1.290)	33.78 (1.33)	2.79 (.110)
SMTC-1158*	QFP 304 DUAL	40.64 (1.600)	41.91 (1.65)	41.91 (1.650)	40.64 (1.60)	5.08 (.200)
SMTC-111	PLCC 18	7.62 (.300)	8.38 (.330)	12.70 (.500)	13.46 (.530)	3.81 (.150)
SMTC-112	PLCC 20	9.14 (.360)	10.16 (.400)	9.14 (.360)	10.16 (.400)	3.81 (.150)
SMTC-1103	PLCC 28	9.40 (.370)	10.41 (.410)	14.48 (.570)	15.49 (.610)	3.81 (.150)
SMTC-116	PLCC 32	11.43 (.450)	12.70 (.500)	13.97 (.550)	15.24 (.600)	3.81 (.150)
SMTC-113	PLCC 28	11.56 (.455)	12.70 (.500)	11.58 (.455)	12.70 (.500)	3.81 (.150)
SMTC-114	PLCC 44	16.76 (.660)	17.78 (.700)	16.76 (.660)	17.78 (.700)	3.81 (.150)
SMTC-118*	PLCC 68	24.38 (.960)	25.27 (.995)	24.38 (.960)	25.27 (.995)	5.59 (.220)
SMTC-128	PLCC 68 dual	24.38 (.960)	25.27 (.995)	24.38 (960)	25.27 (.995)	5.59 (.220)
SMTC-129	PLCC 84 dual	29.59 (1.165)	30.35 (1.195)	29.59 (1.165)	30.35 (1.195)	5.59 (.220)
SMTC-117*	PLCC 52	19.30 (.760)	20.32 (.800)	19.30 (.760)	20.32 (.800)	3.81 (.150)
SMTC-119*	PLCC 84	29.59 (1.165)	30.35 (1.195)	29.59 (1.165)	30.35 (1.195)	5.59 (.220)

1 = 700 Series for most standard applications. **0** = 600 series also available for temperature sensitive applications. To order this series, replace 1 with 0. * = Not available for 600 Series ** = Not recommended for 600 Series

Talon® Cartridges

for Metcal MX-500TS

Part No.	Description	A
TATC-601	Fine Point Tip	0.4mm (.015")
TATC-602	Blades Tip	6.4mm (.25")
TATC-603	Blades Tip	15.8mm (.62")
TATC-604	Blades Tip	20.6mm (.81")
TATC-605	TSOP 32 Tip	10.2mm (.40")
TATC-606	Blades Tip	28mm (1.10")
TATC-608	Angled Viper Tip	1.3mm (.05")
TATC-609*	Fine Point Tip	0.5mm (.02")

6 = 600 series for temperature sensitive applications. **5** = 500 series. To order this series, replace 6 with 5.
*Only available in 600 series

Precision Tweezer Cartridges

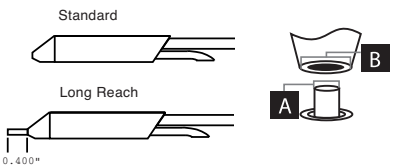
for Metcal MX-500SPT

Part No.	Description	A
PTTC-701B*	Bent Conical	0.4mm (.015")
PTTC-601	Conical	0.4mm (.015")
PTTC-602	Blade	1.0mm (.039")
PTTC-603	Blade	2.0mm (.079")
PTTC-604	Blade	6.35mm (.25")
PTTC-605	Blade	16.0mm (.63")
PTTC-606	Blade	20.5mm (.80")
PTTC-607	Blade	28.0mm (1.10")

6 = 600 series for temperature sensitive applications. **7** = 700 series. **8** = 800 series.To order these series, replace 6 with 7 or 8.
*Available only in 700 series

Desoldering Cartridges

for Metcal MX-500DS



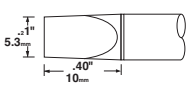
Part No.	Description	øA mm (in)	øB mm (in)
STDC-102**	Standard Tip Cartridge	0.64mm (.025")	0.55mm (.140")
STDC-103**	Standard Tip Cartridge	0.30mm (.076")	1.68mm (.066")
STDC-104**	Standard Tip Cartridge	1.02mm (.040")	1.78mm (.070")
STDC-105**	Standard Tip Cartridge	1.27mm (.050")	2.03mm (.080")
STDC-106**	Standard Tip Cartridge	1.52mm (.060")	2.29mm (.090")
STDC-107**	Standard Tip Cartridge	2.41mm (.095")	3.18mm (.125")
STDC-703L*	Long Reach Tip Cartridge	0.76mm (.030")	1.68mm (.066")
STDC-704L*	Long Reach Tip Cartridge	1.02mm (.040")	1.79mm (.070")
STDC-705L*	Long Reach Tip Cartridge	1.27mm (.050")	2.03mm (.080")

1 = 700 Series except * **7** = 700 Series for most standard applications. **8** = 800 Series also available.
0 = 600 Series, only available for **.To order these series, replace 1 with either 0 or 8.

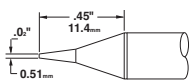
Soldering Cartridges

for Metcal SP200 System

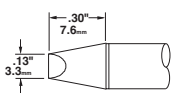




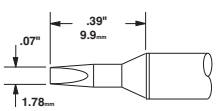
SSC-**7**17A
Extra Large Chisel
5.3mm (.21")



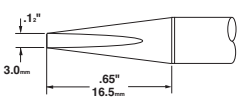
SSC-**7**22A
Conical Sharp
0.51mm (.02")



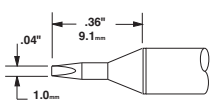
SSC-**7**13A
Chisel 90°
3.3mm (.13")



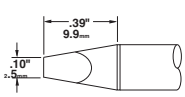
SSC-**7**72A
Conical Chisel
1.78mm (.07")



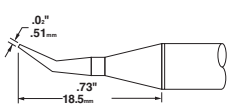
SSC-**7**46A
Long Reach Chisel
3.0mm (.12")



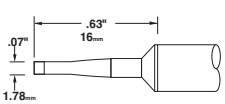
SSC-**7**71A
Conical Chisel
1.0mm (.04")



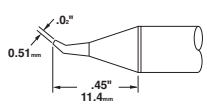
SSC-**7**36A
Chisel 30°
2.5mm (.10")



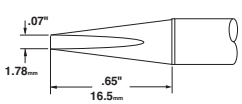
SSC-**7**54A*
Sharp Bent 30°
0.51mm (.02")



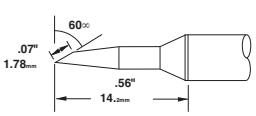
SSC-**7**42A
Long Reach Chisel 60°
1.78mm (.07")



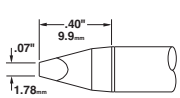
SSC-**7**26A
Sharp Bent 30°
0.51mm (.02")



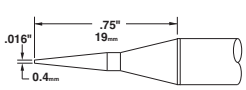
SSC-**7**70A
Long Chisel
1.78mm (.07")



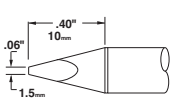
SSC-**7**47A
Bevel 60°
1.78mm (.07")



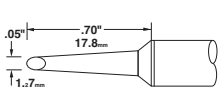
SSC-**7**37A
Chisel 30°
1.78mm (.07")



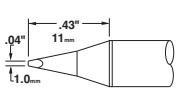
SSC-**7**45A
Bevel 60°
0.4mm (.016")



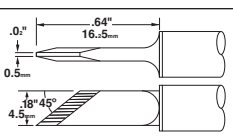
SSC-**7**38A
Chisel 30°
1.5mm (.06")



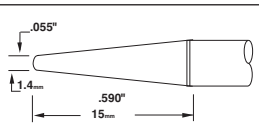
SSC-**7**67A
Drag Soldering Tip
(Mini-Hoof)



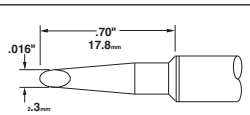
SSC-**7**25A
Chisel 30°
1.0mm (.04")



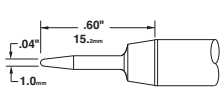
SSC-**7**61A
Drag Soldering Tip
(Knife)



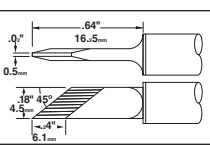
SSC-**7**74A
Conical Sharp
1.4mm (.055")



SSC-**7**39A
Drag Soldering Tip
(Hoof)



SSC-**7**01A
Conical Sharp
1.0mm (.04")



SSC-**7**73A
Drag Soldering Tip
(Increased Tinned Area
6.1mm (.24")

7 = 700 Series for most standard applications. **6** = 600 series and **5** = 500 series also available for temperature sensitive applications. To order these series, replace 7 with either 6 or 5 except * (not available for 500 Series).

Accessories and Spare Parts

for MFR Series and PS-800E System

HAND-PIECES AND COILS



Part No.	Description
MFR-HPT	Precision Tweezer Hand-piece with cord (MFR-PTZ)
MFR-HSR	Cartridge Solder / Rework Hand-piece with cord (MFR-SRC)
MFR-HPS	Heater Tip Hand-piece with coil asembly (MFR-PST)
MFR-HDS	Convertible Desolder Hand-piece (MFR-DSX,-DSI,-SDX,-SDI)
MFR-CA2	Coil Assembly for MFR-HPS Hand-piece (MFR-PST)
PS-HC1	Soldering Handle with PS-CA1 Coil Assembly (PS-800)
PS-HC2	Soldering Handle with PS-CA2 Coil Assembly (PS-800E)
PS-CA1	Coil Assembly for PS-HC1 Hand-piece (PS-800)
PS-CA2	High Power Coil Assembly PS-HC2 Hand-piece (PS-800E)

REPLACEMENT WORKSTANDS



Part No.	Description
WS1	Universal Auto Sleep Workstand
WS2	Solder Auto Sleep Workstand (PS-800 & PS-800E)
MFR-WSPT	Precision Tweezer Workstand (MFR-PTZ)
MFR-WSSR	Soldering Workstand (MFR-SRC & MFR-PST)
MFR-WSDS	Desoldering Workstand (MFR-DSX,-DSI,-SDX,-SDI)
WSTCB	Tweezer Cradle Replacement for WST Workstand
WS1CB	Solder Rework Cradle Replacement for WS1 Workstand
WS2CB	Solder Rework Cradle Replacement for WS2 Workstand

LEAD-FREE PROCESS IDENTIFICATION

For more info vist our Lead Free Zone at www.leadfreezone.com



Part No.	Description
WS1G	Green Universal Auto Sleep Workstand
WS2G	Green Auto Sleep Workstand (PS-800 & PS-800E)
WS1CG	Green Solder Rework Cradle Replacement for WS1 Workstand
WS2CG	Green Solder Rework Cradle Replacement for WS2 Workstand
AC-CK1	Green Identification Ring for MFR and PHT Consumables (Pack of 50)
AC-CK4	Green Identification Ring for SFV Tips (Pack of 50)

MISCELLANEOUS ACCESSORIES

Also see tip fume extraction accessories on page 47.



Part No.	Description
AC-BRUSH-P	Soft Brass Brush (Pack of 6)
AC-CP2	Cartridge and Tip Removal Pad
AC-FX1	Fume Extraction Kit
AC-IK	Interlocking / Mounting Kit
AC-MFR-PM	Power Meter for MFR Series
AC-PM	Power Meter for PS Series
AC-Y10	Yellow Sponge (Pack of 10)
AC-YS4	Yellow Sponge Round for PS Series (Pack of 10)
AC-BP	Brass Pad (Pack of 10)

DESOLDERING ACCESSORIES

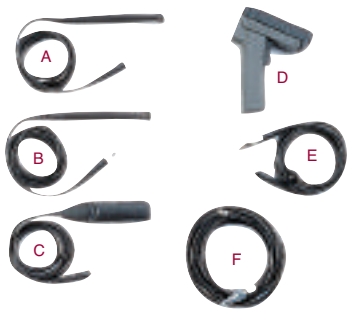


Part No.	Description
AC-TCP	Desoldering Tip Cleaner (Pack of 12)
DP-SL3	Front Seal
AC-VL	ESD Air Hose
MFR-HDCA	Desolder Coil Assembly
AC-CC	Solder Collection Chamber
AC-DFP	Chamber Liner, Filter & Fume

Accessories and Spare Parts

for Metcal MX-500 and SP200 Systems

HAND-PIECES AND COILS



Part No.	Description
MX-RM3E A	ESD Solder Handle W/CP2 for MX-500 Systems
MX-RM6E B	ESD Long Reach Solder Handle W/CP2 for MX-500
MX-TALON C	Talon® Hand-Piece with Cord
MX-DS1 D	Desolder Hand-Piece
SP-HC1	ESD Solder Handle for SP200 Systems
MX-RM8E E	DS1 Desolder Cord
MX-DAH4 F	ESD Air Hose, standard with fitting
MX-RM5E	Standard Robotic Cable, 1-piece, 6' (1.83m)

REPLACEMENT WORKSTANDS



Part No.	Description
WS1	Universal Auto Sleep Workstand
WS2	Solder Auto Sleep Workstand (SP200)
WST	Talon® Workstand (MX-500TS)
MFR-WSPT	Precision Tweezer Workstand (MX-500SPT)
MFR-WSDS	Desoldering Workstand (MX-500DS)
WSTCB	Tweezer Cradle Replacement for WST Workstand
WS1CB	Solder Rework Cradle Replacement for WS1 Workstand
WS2CB	Solder Rework Cradle Replacement for WS2 Workstand

LEAD-FREE PROCESS IDENTIFICATION *For more info vist our Lead Free Zone at www.leadfreezone.com*



Part No.	Description
WS1G	Green Universal Auto Sleep Workstand
WS2G	Green Auto Sleep Workstand (SP200)
WSTG	Green DS1/Talon® Workstand (MX-500TS and MX-500DS)
WSTCG	Green Tweezer Cradle Replacement for WST Workstand
WS1CG	Green Solder Rework Cradle Replacement for WS1 Workstand
WS2CG	Green Solder Rework Cradle Replacement for WS2 Workstand
AC-CK2	Green Identification Ring for STTC Cartridges (Pack of 50)
AC-CK4	Green Identification Ring for SSC Cartridges (Pack of 50)

MISCELLANEOUS ACCESSORIES



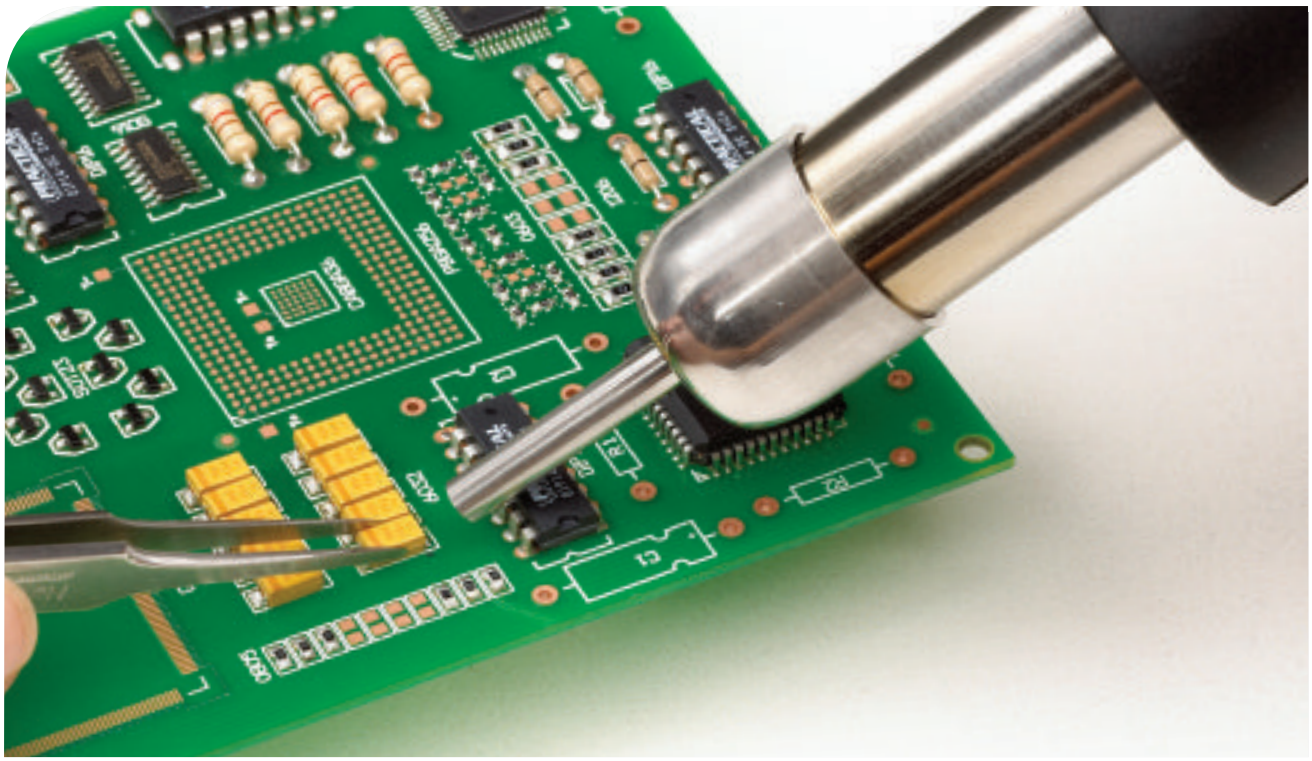
Part No.	Description
AC-TSTAND K	Tip Stand
AC-CP2 L	Cartridge Removal Pad
AC-BRUSH-P M	Soft Brass Brush Cleaner (Pack of 6)
STSS-TEMPLATE O	SMTC Tip Selection Template
AC-TCASE P	Tip Case for STTC/SSC (holds 10 tips)
MX-NPM	Net Power Meter for MX-500
AC-Y10	Yellow Sponge (Pack of 10)
AC-YS4	Yellow Sponge Round for SP200 (Pack of 10)

DESOLDERING ACCESSORIES



Part No.	Description
MX-DCF1 Q	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)
MX-DAR1 R	Air Regulator and Filter with Fittings
AC-TC-P S	Desolder Tip Cleaner (Pack of 12)
AC-CB1-P T	Desolder Chamber Cleaning Brush (Pack of 25)
AC-CB2-P U	Desolder Tube Cleaning Brush (Pack of 6)
MX-DVC1 V	Venturi Cartridge for Desolder Gun
MX-DSL1 W	DS1 Chamber Seal
MX-DSL2 X	DS1 Cartridge Seal
MX-DSB Y	Desolder Gun Swivel Bushing
MX-DLA	Desolder Gun Latch Adjustment (Pack of 10)
MX-DMK1	DS1 Maintenance kit *(for content visit www.okinternational.com)*

HCT-900 Hand Held Convection Tool



Versatile Hot Air Tool for Soldering and Desoldering Applications

The HCT-900 Hand Held Convection Tool offers a low cost, versatile rework solution for a wide variety of production and rework application challenges. It has a simple, compact robust design comprising of analog controls for both airflow and heat. A closed loop feedback circuit controls the temperature allowing the desired temperature to be achieved and maintained regardless of changes in the volume of airflow.

The HCT-900 can be used for the removal and refitting of electronic components, including lead-free, from 0201 up to 304 pin QFP. It is also effective at reworking pin in-hole devices such as sockets and connectors. And, using it with solder braid and flux is a fast and efficient way to remove solder shorts and splashes. It can also be used in plastic applications such as applying shrink wrap to components or the formation of plastic rivets.



The unique low noise air pump (less than 45 db) provides precise airflow control for the most demanding applications. The “power off” cool down function retains airflow through the hand piece while the unit powers down, providing efficient heater cooling and reducing thermal stress.

The HCT-900 is fully ESD compliant.

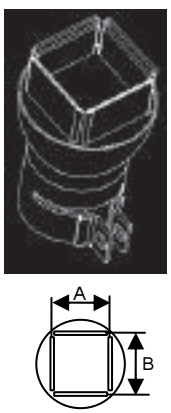
Part No.	Description
HCT-900-21	230V Hand Held Convection Tool
HCT-900-11	115V Hand Held Convection Tool
HCT-HE-21	Heating Element, Replacement, 230V
HCT-HE-11	Heating Element, Replacement, 115V

Nozzle Selection

The HCT-900 is supplied with a standard single jet H-D50 (0.2", 5.0mm) nozzle. In addition two rework nozzle kits, predefined for specific applications, are available, as well as a full selection of nozzles.

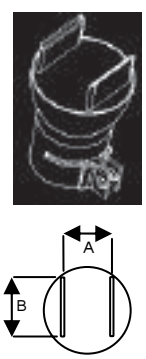
Part No.	Description
NZKT-1	Nozzle Kit for Chip Resistors, SOIC & TSOP Packages. Includes (one each): **• H-D25 • H-SL16 • H-SL28** **• H-SOJ40 • H-TS48**
NZKT-2	Nozzle Kit for PLCC, QFP & BQFP packages. Includes (one each): **• H-P20 • H-P44 • H-P84** **• H-Q1420 • H-Q2626**

PLCC, BQFP, QFP



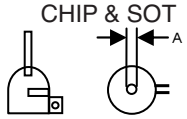
Model	Chip Type	A mm (in)	B mm (in)
H-P20	PLCC-20	11.9 (0.47")	11.9 (0.46")
H-P28	PLCC-28	14.5 (0.57")	14.5 (0.57")
H-P32	PLCC-32	16.9 (0.67")	14.3 (0.56")
H-P44	PLCC-44	19.5 (0.77")	19.5 (0.77")
H-P52	PLCC-52	22.0 (0.86")	22.1 (0.87")
H-P68	PLCC-68	27.0 (1.06")	27.2 (1.07")
H-P84	PLCC-84	32.4 (1.28")	32.4 (1.28")
H-Q07	QFP-48	8.4 (0.33")	8.4 (0.33")
H-Q10	QFP-44	13.4 (0.53")	13.4 (0.53")
H-Q14	QFP-52,80	17.3 (0.68")	17.3 (0.68")
H-Q1420	QFP-64,80,100	23.4 (0.92")	18.1 (0.71")
H-Q28	QFP-120,128,144,160	31.2 (1.23")	31.2 (1.23")
H-BQ23	BQFP-100	22.4 (0.88")	22.4 (0.88")
H-Q3232	QFP-240	34.5 (1.36")	34.5 (1.36")
H-BQ38	BQFP-196	37.7 (1.48")	37.7 (1.48")
H-Q2626	QFP-208	29.8 (1.17")	29.8 (1.17")

SOIC, TSOP



H-S16	SOIC 14,16	6.8 (0.27")	10.2 (0.4")
H-SL16	SOL 14,16	10.6 (0.41")	10.8 (0.43")
H-SL20	SOL 20,20J	10.6 (0.41")	13.3 (0.52")
H-SL24	SOL 24,24J	10.6 (0.41")	15.9 (0.63")
H-SL28	SOL 28	10.6 (0.41")	18.4 (0.72")
H-SL44	SOL 44	16.0 (0.41")	27.9 (1.1")
H-SOJ32	SOJ 32	13.5 (0.53")	20.6 (0.81")
H-SOJ40	SOJ 40	13.5 (0.53")	25.4 (1.0")
H-TS24	TSOP 20-24	17.0 (0.67")	7.1 (0.28")
H-TS32	TSOP 28-32	21.0 (0.83")	9.1 (0.36")
H-TS40	TSOP 40	21.0 (0.83")	10.8 (0.43")
H-TS48	TSOP 48	21.0 (0.83")	13.3 (0.52")
H-TSW24	TSOP 20-24	10.2 (0.4")	18.4 (0.72")
H-TSW44	TSOP 24-28/40-44	12.7 (0.5")	19.8 (1.78")

CHIP & SOT



Model	ø A (mm)
H-D25	2.5 (0.1")
H-D50	5.0 (0.2")
H-D120	12.0 (0.47")

Specifications

Input Line Voltage	230 V HCT-900-21 / 115V HCT-900-11
Power	320 W
Air Pump Type	Diaphragm
Air Flow	6-25 l/min
Control Temperature	100°C - 500°C (212°F - 932°F)
Dimensions w x l x h	6.7" x 8.7" x 5.5" inches, 170 x 210 x 140 mm
Noise Level	Less than 46 dBA
Surface Resistivity	Unit: $10^5\Omega$ - $10^6\Omega$ Hand-piece & tube: $10^7\Omega$ - $10^{11}\Omega$
Weight	10.4 lbs. (4.7 kg)
Certification / Approvals	cTUVus, CE

PCT-100 Focused Convection Pre-heater



Focused Convection Pre-heater Delivers Heat to Where It's Needed Most

OK International PCT-100 is a focused convection pre-heater that is designed to provide extra heat capacity for demanding applications such as lead-free, multi-layer boards and assemblies with large ground planes. The system's focused heat design promotes quick ramp to temperature. Unlike conventional pre-heaters, the PCT-100 Focused Convection Pre-heater directly targets the underside PCB providing a substantial thermal boost for processes including hand soldering, through-hole desoldering, and hot air SMT rework. Users enjoy the benefit of improved process time and exceptional control of potentially damaging temperatures.

The PCT-100 Focused Convection Pre-heater provides options for an integrated board holder* or a stand-alone board holder** or a workpiece plate where the device can be rested just above the focused air-source. The system can also be supplied with an adjustable-angle arm rest to enhance operator productivity through improved ergonomics. Even more, the PCT-100 Focused Convection Pre-heater distinguishes itself for its very attractive low price.

Specifications

Input Voltage	115 V (PCT-100-11) 230 V (PCT-100-21)
Heater Rating	450 W
Storage Temperature	-10°C—60°C (14°F—140°F)
Environmental Temperature	0°C—40°C (32°F—104°F)
Air Flow	10.2 CFM (280 l/min)
Control Temperature	Variable up to 300°C (572°F)
Surface Resistivity ESD	$10^{6}\Omega$ - $10^{11}\Omega$
Dimensions	205(L) x 155 (W) x 65 (H) mm
Weight	1.6 kg
Certificate/Approvals	cTUVus, CE



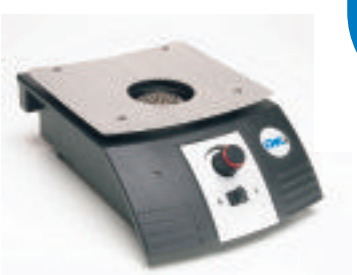
*The BH-010 integrated board holder is limited to 3.08" (78.4 mm) in the x-axis and open-ended in the y-axis.
** The BH-100 stand-alone board holder is open ended on the 12" (305mm) axis. Larger boards cave be accommodated depending on application.



Variable Temperature Scale

PCT-100 Focused Convection Pre-heater

Part No.	Description
PCT-100-11	Focused Convection Pre-heater 115V
PCT-100-21	Focused Convection Pre-heater 230V
PCT-101-11	Focused Convection Pre-heater 115V with Arm Rest
PCT-101-21	Focused Convection Pre-heater 230V with Arm Rest
PCT-102-11	Focused Convection Pre-heater 115V with Arm Rest and Boardholder
PCT-102-21	Focused Convection Pre-heater 230V with Arm Rest and Boardholder
PCT-103-11	Focused Convection Pre-heater 115V with Arm Rest and Integrated Boardholder
PCT-103-21	Focused Convection Pre-heater 230V with Arm Rest and Integrated Boardholder
PCT-1HE-11	Heating Element Replacement for PCT-100 Focused Convection Pre-heater 115V
PCT-1HE-21	Heating Element Replacement for PCT-100 Focused Convection Pre-heater 230V
PCT-AR	Arm Rest for PCT-100 Focused Convection Pre-heater
PCT-ARPAD	Replacement Pad for Arm Rest PCT-AR
BH-100	Boardholder for PCT-100 Focused Convection Pre-heater
BH-010	Integrated Boardholder for PCT-100 Focused Convection Pre-heater



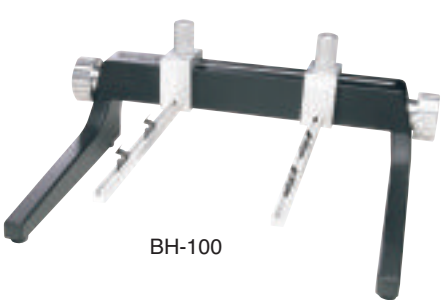
PCT-100-11
PCT-100-21



PCT-AR



PCT-100 with integrated boardholder BH-010



BH-100



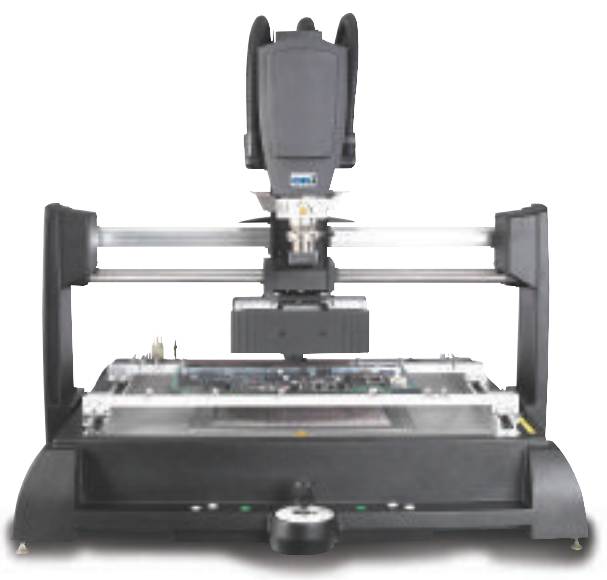
Advanced Package Rework

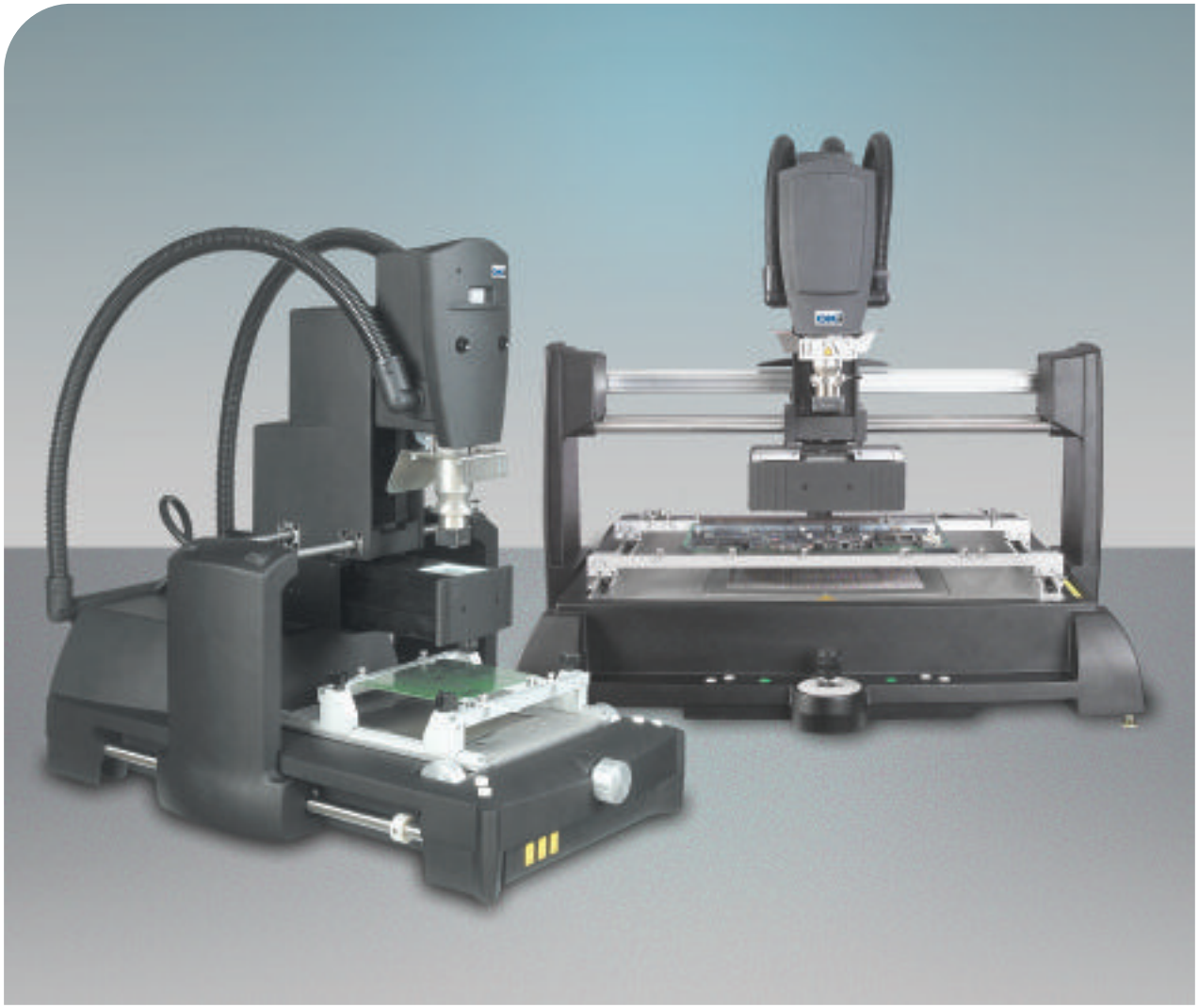
As the rework and repair processes have evolved, our tools have grown to keep up with increasingly sophisticated packages. We design our systems by working closely with component suppliers and customers to develop powerful, user friendly systems and process solutions.

Our APR-5000 Advanced Package Rework Platform is designed to facilitate rework of even the most challenging boards, including lead-free and multi-layer assemblies. These systems allow you to reflow packages without incurring excessive lid temperatures, re-melting soldered joints outside the rework area, warping of the PCB or distorting the plastic bodies of connectors. They provide the increased thermal transfer and stricter temperature control required for lead-free rework.

Consisting of two series, the APR-5000-XL and APR-5000-DZ Series, these systems have precision placement and powerful software that make the rework of complex array packages easy, fast and reliable.

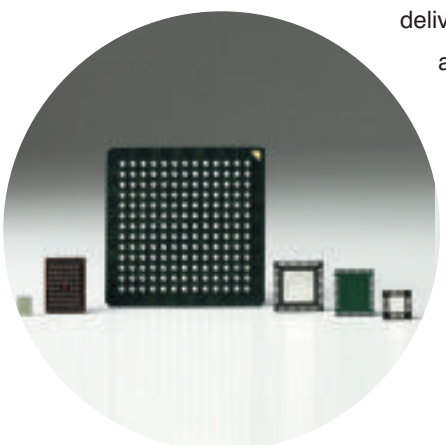
APR-5000-DZ	Advanced Package Rework System Dual Zone	35
APR-5000-XL	Advanced Package Rework System Large Board	36





Precision Advanced Package Rework

The APR-5000 Series Advanced Package Rework Systems incorporate state-of-the-art vision, and closed-loop time, temperature and airflow control. Precision placement and powerful software make the rework of complex array packages easy, fast and reliable.



Economical and easy-to-use, the APR-5000 Series Advanced Package Rework Systems deliver best-in-class BGA/CSP functionality with professional performance at an affordable price. All machines incorporate the ideal combination of hardware features and automated software necessary for reworking today's array packages.

Easy-to-program multi-lingual software manages the five stages of the reflow profile: pre-heat, soak, ramp, reflow and cooling. In addition, board temperature can be monitored using integrated flying thermocouples. Real-time adjustments can be made to all parameters while the profile is running.

To help guarantee uniformity and higher process yields, the APR-5000 Series incorporates powerful, efficient and fast response convective top reflow heater and bottom dual zone preheaters for fast ramp and tight delta temperature control across reworked component and uniform preheating across surface of the PCB.

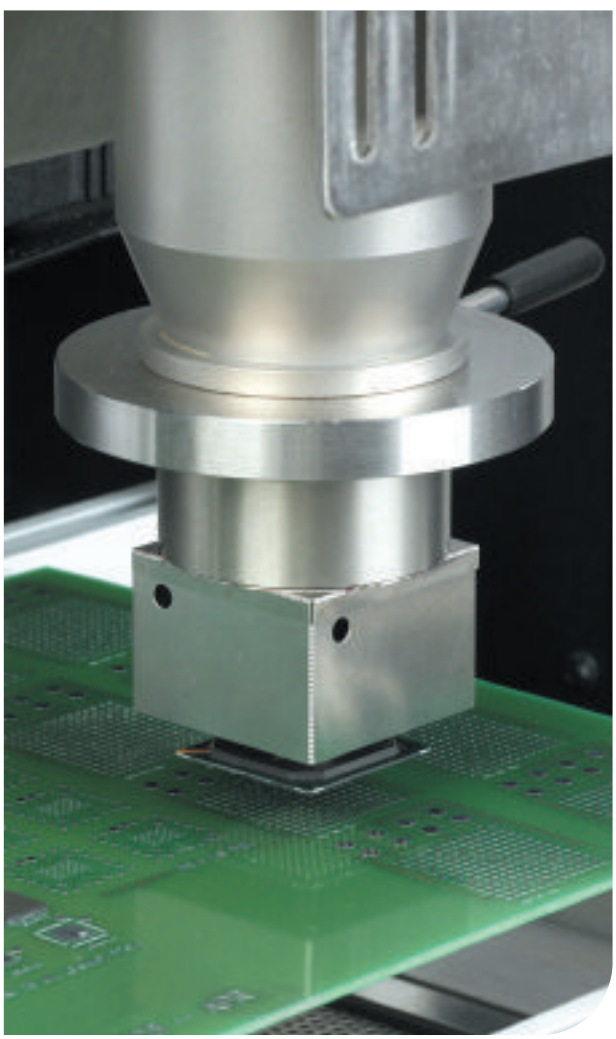
The enhanced software is instructive and intuitive, walking the engineer through the steps of process development and then guiding the operator through the process steps to ensure consistent, repeatable execution of the automatic profile functions. Engineer also has the ability to associate tutorial to individual process file presenting step-by-step instructions that operator can reference quickly and easily in real-time.

Lead-Free Compatible

As the implementation of lead-free assemblies intensifies, the APR-5000 series Advanced Package Rework Systems have the power, size and sophistication to meet the required higher, cost-sensitive performance criteria.

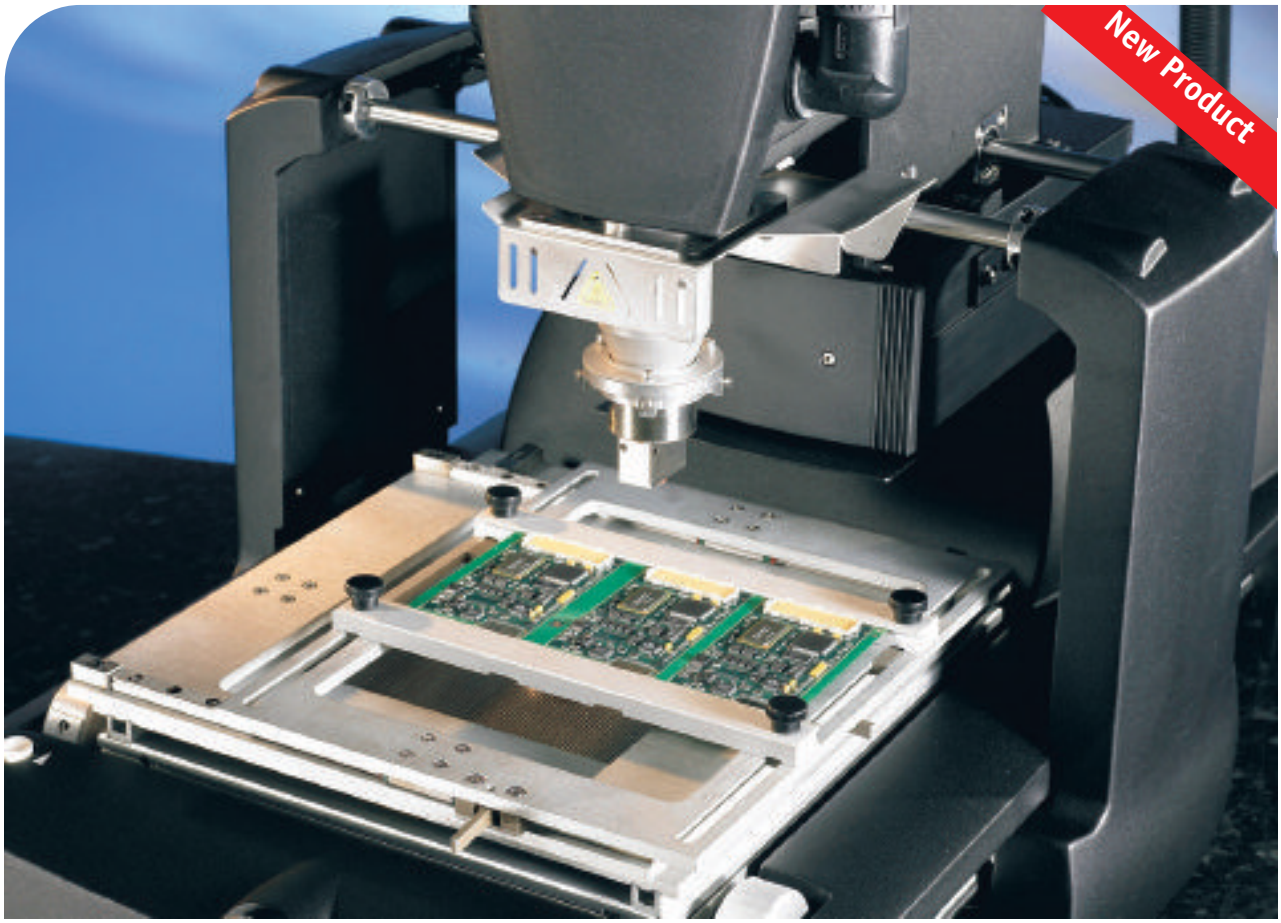
The innovative single reflow/placement head and dual stage preheaters help achieve a consistently small Delta T across the board and the component. Thermal damage is precluded due to the system's precisely controlled preheater; lead-free profiles can be quickly developed via the system's five thermocouples; and closed-loop, computer controls and intuitive software help operators maintain the ideal process from start to finish.

The APR-5000 Series Advanced Package Rework Systems provide full convection in both reflow heater and dual pre-heaters to provide fast ramp and precise peak reflow temperature without thermal damage to sensitive components unsuitable for heating above 240ºC. And with four heating zones and one cooling zone, the precise profiles needed for successful soldering/desoldering of lead-free packages are easily delivered.



The APR-5000 Series Advanced Package Rework Systems are distinguished by innovation and flexibility. The dual stage convective pre-heater can be switched between inner and outer stage within the four heating zones of a profile to meet the higher rework requirement of lead-free.

Higher thermal performance can be achieved, attaching reflow nozzles to both the top reflow and bottom inner stage heaters set directly above and below reworked component. Bottom nozzle has added advantage in preventing thermal damage to adjacent components on the underside of the PCB. And newly design thermal tweezer top nozzle provides integrated mechanical action pickup for devices with limited surface area instead of standard vacuum pickup.



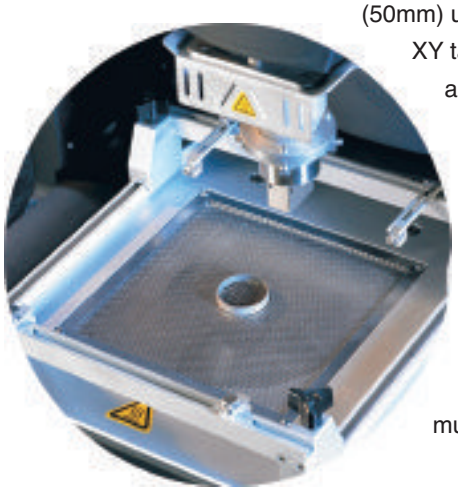
APR-5000-DZ Advanced Package Rework System

Design and functionality come together in the compact and powerful APR-5000-DZ Advanced Package Rework System. This system provides closed-loop control, optimized vision and precise component placement on a compact platform of 19" x 30" (483mm x 762mm). Self contained pumps are standard on this compact platform allowing for easy benchtop setup.

Capable of handling boards up to 9" x 15" (229mm x 381mm), with a placement accuracy to 0.001" (0.025mm) and interconnection pitches as low as 0.012" (0.3mm), the APR-5000-DZ is ideal for reworking smaller assemblies such as cell phones and laptop computers.

The APR-5000-DZ System incorporates powerful, efficient and fast response convective top reflow heater and bottom dual zone pre-heaters for delivering fast ramp and tight delta temperature control horizontally, across the surface of PCBs up to 0.25" thick, and vertically between the die and ball of the reworked components.

The single reflow/placement head can be moved to the correct position for rework allowing PCB assemblies with 2" (50mm) underside components to be stationary mounted above the pre-heater. An optional XY table can be added to minimize operator fatigue and is ideal for small PCB assemblies with less than .25" (6.4mm) underside components. In addition, the APR-5000-DZ-TAB is an APR-5000-DZ system with a pre-assembled XY table.



The system also incorporates an exclusive integral vision system that makes viewing, aligning and accurately placing a component easy by allowing operators to simultaneously view the topside of the PCB and a superimposed image of the underside of the component. Then, with micrometer adjustment, images can be accurately aligned in the X, Y & Theta axes prior to placement. In addition, integrating the vision system with the machine's software eliminates the need for multiple monitors.



APR-5000-XLS Advanced Package Rework System

The APR-5000-XLS Advanced Package Rework System provides board capability with small board precision. This system performs precise, cost effective rework of the widest range of PCBs and component types, from large boards up to 24.5" x 24.5" (622mm x 622mm) to components down to 0.020" x 0.010" (0.5mm x 0.25mm).

The flexible APR-5000-XLS System incorporates dual stage pre-heaters and has the thermal capacity and control to execute precise profiles of both large and small PCBs, delivering uniform temperature control horizontally, across the surface of PCBs up to 0.25" (6.35mm) thick, and vertically between the die and ball of the reworked component.

Motorized X,Y, Z adjustments speed placement and help ensure process repeatability. In addition, motorized Theta axis provides 360° rotation to simplify component orientation. Together, these advanced controls reduce operator fatigue, improve placement accuracy and provide process consistency.

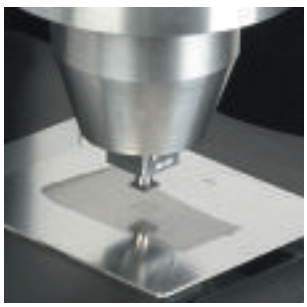
Featured on the APR-5000-XLS Advanced Package Rework System is an innovative Split Vision System, which allows operators to view the opposite corners of a component, including splitting on rectangular components, with the necessary magnification to make its placement and registration fast and accurate.



Component Stenciling Templates

OK International has designed a unique tool, Component Stenciling Templates, for printing on the underside of components. This easy procedure is designed for use on PBGA, CBGA, CSP balled devices as well as Land Grid Array (LGA) components. This is an ideal process for small components and situations where traditional stencil access is limited by the close proximity of adjacent components.





Part No.	Description
BST-169	169 Full Matrix Array
BST-225	225 Full Matrix Array
BST-256	256 Full Matrix Array
BST-226P	256 Perimeter Array
BST-256FP	256 Fine-Pitch Full Matrix Array
BST-272P+16	272 Perimeter Array With 16 Inner
BST-303	303 Full Matrix Array
BST-324	324 Full Matrix Array
BST-352P	352 Perimeter Array
BST-357	357 Full Matrix Array
BST-492	492 Full Matrix Array
CST-46	46 Ball Micro BGA
BRP-LDA16A	NSC LLP 16 Pin Dual In-Line
BRP-LQA16A	NSC LLP 16 Pin Quad
BRP-LQA24A	NSC LLP 24 Pin Quad
BRP-LQA44A	NSC LLP 44 Pin Quad

Dip Transfer

This process involves dipping a component into gel flux, depositing an exact amount of flux. This process is quick, consistent and clean, and negates the need to clean after reflow. Available for both solder balled and leaded devices. All kits are supplied with a metal spatula.

Part No.	Description
DTP-BGA	Set of 3 plates, apertures 28, 35 & 45mm, depth 0.012" (0.30mm)
DTP-CSP	Set of 3 plates, apertures 10, 16 & 21mm, depth 0.006" (0.15mm)
DTBK-USMD	Kit, uSMD Flux Transfer Blocks, set of 2 blocks, depth 0.003" (0.08mm) and 0.004" (0.10mm)
DTBK-FC	Kit, Flip Chip Flux Transfer Blocks, set of 2 blocks, depth 0.001" (0.025mm) and 0.002" (0.051mm)

Tape Feeder

Picking up small surface mount components with tweezers is not practical and may damage the component. This is a unique way of presenting small components to a rework machine.

Part No.	Description
TF-1T	Tape Feeder, Micro SMD with thumbwheel
TF-2T	Tape Feeder, 0603 and 0402 with thumbwheel
TF-3T	Tape Feeder, 0201 with thumbwheel

Nozzles

A comprehensive range of standard reflow nozzles available to suit the most common array packages is available. The reflow nozzle works with vacuum pickup, the tweezer nozzle works with devices with limited area or multilayer structure by providing mechanical tweezer action pickup instead of vacuum pickup e.g. PoP, sockets, connectors, inductors, potentiometers and through-hole components.



Part No.	Description	
APR-NK	APR-5000 Nozzle Kit (*Includes 1 of each)	
APR-NK-CSP	APR-5000 CSP and Micro SMD Nozzle Kit (**Includes 1 of each)	
NZA-555-555-CGA	APR Reflow Nozzle	55.5mm x 55.5mm (column grid array nozzle)
NZA-470-470-CGA	APR Reflow Nozzle	47mm x 47mm (column grid array nozzle)
NZA-355-455-CGA	APR Reflow Nozzle	35.5mm x 45.5mm (column grid array nozzle)
NZA-350-350-CGA	APR Reflow Nozzle	35mm x 35mm (column grid array nozzle)
NZA-490-490*	APR Reflow Nozzle	49mm x 49mm
NZA-450-450	APR Reflow Nozzle	45mm x 45mm
NZA-400-400*	APR Reflow Nozzle	40mm x 40mm
NZA-350-350*	APR Reflow Nozzle	35mm x 35mm
NZA-300-300	APR Reflow Nozzle	30mm x 30mm
NZA-270-270	APR Reflow Nozzle	27mm x 27mm
NZA-250-290	APR Reflow Nozzle	25mm x 29mm
NZA-230-230*	APR Reflow Nozzle	23mm x 23mm
NZA-200-200**	APR Reflow Nozzle	20mm x 20mm
NZA-180-180***	APR Reflow Nozzle	18mm x 18mm
NZA-150-150**	APR Reflow Nozzle	15mm x 15mm
NZA-130-130***	APR Reflow Nozzle	13mm x 13mm
NZA-100-100***	APR Reflow Nozzle	10mm x 10mm
NZA-080-095***	APR Reflow Nozzle	8mm x 9.5mm
NZA-080-080**	APR Reflow Nozzle	8mm x 8mm
NZA-060-060***	APR Reflow Nozzle	6mm x 6mm
NZA-030-ROUND	APR Reflow Nozzle	3mm ID round
NZA-TW-180-180	APR Tweezer Nozzle	18mm x 18mm
NZA-TW-150-150	APR Tweezer Nozzle	15mm x 15mm
NZA-TW-130-130	APR Tweezer Nozzle	13mm x 13mm
NZA-TW-100-100	APR Tweezer Nozzle	10mm x 10mm
NZA-TW-080-080	APR Tweezer Nozzle	8mm x 8mm
NZA-TW-060-060	APR Tweezer Nozzle	6mm x 6mm

(*** included in both kits)

Systems

APR-5000-DZ 200-240 VAC Advanced Package Rework System
APR-5000-DZ-TAB 200-240 VAC Advanced Package Rework System with XY Table
APR-5000-XLS 200-240 VAC Advanced Package Rework System
APR-5000-XL 200-240 VAC Advanced Package Rework System
Systems will be configured with desktop PC and monitor. Final pricing will depend on configuration and language version.

Systems Include

VNZ-19	Vacuum Pick-Up Nozzle 19mm O/D**
VNZ-12	Vacuum Pick-Up Nozzle 12mm O/D
VNZ-08	Vacuum Pick-Up Nozzle 8mm O/D
VNZ-05	Vacuum Pick-Up Nozzle 5mm O/D
VNZ-03	Vacuum Pick-Up Nozzle 3mm O/D
VNZ-01	Vacuum Pick-Up Nozzle 1mm O/D
FS-APR	PCB Support Finger Short (4 included)*
FSS-APR	PCB Support Finger Short (8 included)**
FSL-APR	PCB Support Finger Short (4 included with APR-5000 8 with APR-5000-XLS/XL)
UBS-APR	Under Board Support*
UBS-APR-XL	Under Board Support**
APR-TC3	Colour Fine Gauge Thermocouples (includes 3)*
APR-TC5	Colour Fine Gauge Thermocouples (includes 5)**
19782	Adjustable BGA Centering Nest**
20987	Adjustable CSP Centering Nest
20534	Squeegee Blade Holder for Printing
APR-TAB	XY Table***
SOFT-APR-5000-DZ	Installation Software*
SOFT-APR-5000-XL	Installation Software**
Cables	Power, Communication & Video Cables

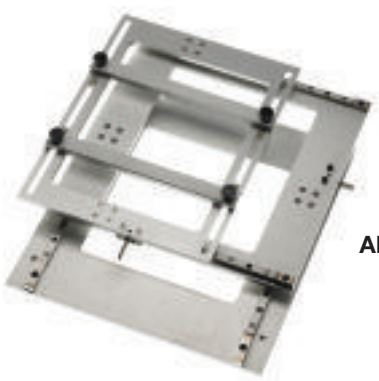
(*APR-5000-DZ/-TAB, **APR-5000-XL / -XLS, ***APR-5000-DZ-TAB)

Optional Accessories

FS-APR-2	PCB Support Finger Short (Pack of 2)
FL-APR-2	PCB Support Finger Long (Pack of 2)
FSL-APR-2	PCB Spring Support Finger Long (Pack of 2)
FSS-APR-2	PCB Spring Support Finger Short (Pack of 2)
FLS-APR-2	Large PCB Finger Short (Pack of 2)
FLL-APR-2	Large PCB Finger Long (Pack of 2)
FLSS-APR-2	Large PCB Spring Finger Short (Pack of 2)
FLSL-APR-2	Large PCB Spring Finger Long (Pack of 2)
UBS-APR	Under Board Support APR-5000
UBS-APR-XL	Under Board Support APR-5000-XL
APR-DK1	Demonstration PCB with BGA & CSP Component Kit
APR-DK2	Demonstration PCB with BGA & CSP Component Kit, includes clear PCB for alignment
PF-1	Print Preparation Plate
VAC-P100	Self-adhesive plates for removal of non-uniform components
APR-LRK	PCB Large Rail Kit - Fits boards up to 12" x 12" (30.5cm x 30.5cm)
VNZ-005	Vacuum pick up nozzle 0.5mm OD
APR-TAB	XY board holder and placement table for APR-5000-DZ
APR-XL-PHNK	Lead-free upgrade kit (for APR-5000-XL/-XLS) including: - Software - Pre Heater Nozzle, 50mm - Pre Heater Nozzle, 45mm - Pre Heater Nozzle, 35mm - Pre Heater Nozzle, Base

Technical Specifications

	APR-5000-DZ/-TAB	APR-5000-XLS/XL
Input Voltage	200-240 VAC, 50/60 Hz 20 Amp Single Phase	200-240 VAC 50/60 Hz 20 Amp Single Phase
Power Consumption		
System Total	2600 W	3500 W
Pre-Heater	1800 W	2800 W
Inner Zone	900 W	1400 W
Outer Zone	1800 W	2800 W
Reflow Heater	550 W	550 W
Temperature Control Type	Closed-Loop Control (RTD Sensors)	Closed-Loop Control (RTD Sensors)
Maximum Source Temperature		
Reflow Head	400ºC (752ºF)	400ºC (752ºF)
Pre-Heater	350ºC (662ºF)	350ºC (662ºF)
Airflow Control	Pre-Set to 8,16 &24 l/min	Pre-Set to 8,16 &24 l/min
Supply	Self-Contained Pump	Self-Contained Pump
Nitrogen Input	Standard Feature (requires 65psi or 4.6 bar)	Standard Feature (requires 65psi or 4.6 bar)
Component Handling Maximum Size	1.4" x 1.4" (35mm x 35mm)	2.2" x 2.2" (56mm x 56mm)
Minimum Size	0.020" x 0.010" (0.51mm x 0.25mm)	0.020" x 0.010" (0.51mm x 0.25mm)
Maximun Weight	55g (1.94oz)	55g (1.94oz)
PCB Handling Capability Maximum Size	15" x 9" (381mm x 229mm)	24.5" x 24.5" (622mm x 622mm)
Rework Area	9" x 12" (229mm x 305mm)	22.5" x 24.5" (572mm x 622mm)
Optional large rail kit (APR-5000-DZ only)	12" x 12" (305mm x 305mm) w/APR-LRK Large Rail Kit	Not available
Aligned inner preheater and reflow heater	8" x 8" (203mm x 203mm) not suggested without XY table	17.5" x 17.5" (445mm x 445mm) with BGA at PCB corner or edge 18.5" x 18.5" (470mm x 470mm) with BGA at 1" from PCB corner or edge.
Maximum Thickness	0.25" (6mm)	0.25" (6mm)
XY Table	Standard on APR-5000 -DZ-TAB Optional on APR-5000-DZ	Not available
Vision Maximum Field of View	1.4" x 1.4" (35mm x 35mm)	2.2" x 2.2" (55mm x 55mm)
Optional Split Field (APR-5000-XLS only)	Not available	Corner crossover on large component
System Dimensions W x D x H	19" x 30" x 30" (483mm x 762mm x 762mm)	36" x 36" x 33" (914mm x 914mm x 838mm)
Weight	130ibs (60Kg)	220lbs (100Kg)
System Warranty	1 Year (Excluding Consumables)	1 Year (Excluding Consumables)
Agency Approvals	CE cETLus	CE cTUVus GS



APR-TAB



Fume Extraction Systems

OK International's fume extraction line of products offers a range of products that include portable single and dual user systems, tip extraction systems and under-bench multi-user systems. All systems provide the power and choice of filters to do the job, yet they are flexible to fit into today's manufacturing environments.

Our systems are set apart by a well designed series of filters, including Hepa filters. These filters capture the most harmful fumes, even those produced by new lead-free solders. In addition, we also have systems with filters that efficiently remove gases and vapors from heavy duty bench-top applications.

We are always working to improve our products, and therefore, we have recently replaced the motor in our BVX-200 Fume Extraction System with a new brushless motor and added new special features (see page 44). This motor significantly improves performance, without raising the cost of the system. All of our systems are developed to incorporate innovative designs, professional performance and ease of use, all within your budget.

BVX-100	Benchtop Single User arm/plenum System	43
BVX-200	Two Stations Portable Filter Unit	44 - 45
BTX-208	Portable Tip Extraction System	46 - 47
MFX-2200	Particle/Gas Fume Extraction Systems	48 - 52





Powerful, Portable Fume Extraction

OK International's BVX-100 Series Fume Extraction Systems are powerful, but low noise units that need no external ducting or compressor. Simply move these lightweight systems from station to station, plug them in and switch them on for instant fume extraction. Just 279mm (11") tall, with a 305mm x 229mm (12" x 9") plenum chamber, the units easily fit on any bench-top or, when space is at a premium, take advantage of the under-bench mounting bracket.

Rated at 85-Watts, the systems deliver high quality filtration without compromise. A powerful 85m^3/hr-airflow rate provides immediate extraction of fumes, particles and vapors from operator breathing areas. When a larger capture range is needed, an innovative adaptor quickly transforms the plenum into an arm extraction system.

Two filtration configurations are available for heavy soldering and light dust applications, or light duty organic solvent and adhesive applications. A bi-coloured LED light indicates when the filters are blocked and require replacing.



Two Station Design for Dynamic Fume Extraction

The BVX-200 Series Fume Extraction Systems are revolutionary two-arm units that combine powerful fan performance with efficient filtration, quiet operation and complete portability. They can be placed under or next to the bench-top and fitted with either two 50mm (2") diameter BVX arms or one 63mm (2.5") diameter Omniflex arm.

The BVX-201 Fume Extraction System is designed mainly for solder fumes and incorporates both pre- and main-filters which can be changed independently to maximise the working life of each filter and lower the total cost of ownership. The main filter has a HEPA efficiency of 99.97% at 0.3 micron, plus an activated carbon filter to remove additional gases. For applications that require a high capacity of gas filtration, such as cleaning with solvents or conformal coatings, the BVX-203 Fume Extraction System features a deep-bed gas filter.

New Features:

Brushless motor

This new motor enhances the BVX-200 by:

- Adding a higher torque to inertia ratio
- Increasing the peak torque
- Increasing the efficiency to 85% - 90%
- Eliminating brushes and commentator which leads to longer life
- Reducing the electrical noise and RF interference
- Eliminating the sparking or brush dust for a safer environment
- Increasing the performance at no load or low load conditions

Filter Monitoring*

The rate of performance is based on the condition of the filters. The BVX-200 now has a filter monitoring feature. This audible alarm will inform the operator when the extraction rate drops below the recommended efficiency level.

Remote on/off operation*

Most fume extraction units are situated at floor level under a bench, which makes turning the system on and off a difficult operation. To overcome this, the BVX-200 now comes with a remote on/off switch. This switch can be placed within reach, where the operator can power the system on and off.

* Additional features available Summer 07



BVX-100 Series

BVX-101
Bench-Top, single user arm/plenum system,
Pre-HEPA-Gas, 100-240 VAC

BVX-103
Bench-Top, single user arm/plenum system,
Pre-Gas, 100-240 VAC

BVX-101-S
Bench-Top, single user plenum system without arm,
Pre-HEPA-Gas, 100-240 VAC

BVX-103-S
Bench-Top, single user plenum system without arm,
Pre-Gas, 100-240 VAC

FILTERS

FG-BVX
Deep Bed Gas Filter

FM-BVX
Main Filter (Combined HEPA/Gas)

FP-BVX
Pre-Filter (Pack of 5)

ACCESSORIES

BVX-ADT
Replacement Arm-To-Plenum Adaptor

BVX-IADT
Inverted Arm Adaptor, ESD Safe

BVX-BCK
Under Bench Mounting Bracket







BVX-200 Series

BVX-201 KIT
Filter unit with 2 flexible arms, 1.2m long, Pre-HEPA-Gas

BVX-201
Filter unit for 2 stations, Pre-HEPA-Gas

BVX-203
Filter unit for 2 stations, Pre-Deep Bed Gas

FILTERS

FP-BVX200
Pre-Filter (Pack of 5)

FM-BVX200
Main Filter HEPA Carbon

FG-BVX200
Deep Bed Gas Filter

ACCESSORIES

BVX-ARM-K1
1 BVX arm 710mm (28") long with 1.8m (6') long hose and table bracket with C-clamps

BVX-ARM
Arm flexible ESD safe, 710mm (28") long

BVX-TB01
Table bracket with 2 C-clamps

BVX-CH01
Connection hose, 50mm (2") diameter, 1.8m (6') long

BVX-CH02
Connection hose, 50mm (2") diameter, 3.6m (12') long





Technical Specifications

	BVX-100 Series	BVX-200 Series
Static Pressure (suction force)	1250 Pa (5"WC)	850 Pa (3.5"WC)
Fan Capacity	110m³/h (65 cfm)	250m³/h (150 cfm)
Flow Rate (with filter)	85m³/h (50 cfm)	2 x 75m³/h (45 cfm)
Air Inlets/Number of Stations	1	2
HEPA Efficiency	99.97% at 0.3 micron	99.97% at 0.3 micron
Noise Level	< 55 db A	<55 db A
Dimensions (W x D x H)	300mm x 230mm x 290mm (11.8" x 9.1" x 11.4")	508mm x 254mm x 388mm (20" x 10" x 15.3")
Weight	9kg (20lbs)	9kg (20lbs)
Voltage	100-240 VAC	100-240 VAC
Frequency	50-60 Hz	50-60 Hz
Power	85 watt	85 watt
Certification	UL, CSA, CE	UL, CSA, CE
Max. Duct Run	N/A	3.6 meters



Precision and Power In Tip Extraction

Due to its powerful vacuum, OK International's BTX-208 Fume Extraction System offers high performance extraction of solder fumes directly from the tip of any hand soldering iron and can be easily configured to form an extraction network for up to eight workstations.

The unit's pre-filter is followed by a main filter offering HEPA efficiency exceeding 99.97% and an activated carbon filter to remove gases. Both pre- and main-filters can be changed independently to maximize the working life of each filter and lower the total cost of ownership.

Measuring 508mm wide by 254mm deep by 388mm high and weighing just 9kg, the BTX-208 Fume Extraction System has been designed specifically for under-bench installation. With a universal power supply that accepts 100 to 240V at 50 or 60Hz, and with UL, CSA and CE certifications, the unit can be used anywhere in the world.

To complement the BTX-208 Fume Extraction System, OK International has developed a new plug-and-play ducting system, which offers a simple, flexible, low cost solution for faster configuration of tip extraction installations.

Portable for up to Eight Operators

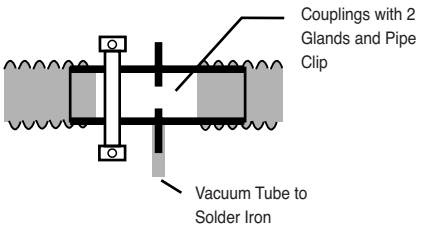
The BTX-208 Fume Extraction System is a tip extraction unit with high vacuum blower motor and a capacity for up to eight workstations. The unit's universal hose connection kit provides maximum flexibility and eliminates the need for a traditional layout and design of tip extraction ducting. The compact design and easy set-up make it truly portable.

Connection Kits

Item	Description		BTX-CK2-25	BTX-CK4-50	BTX-CK4-75
	Max number of stations	single-row bench	2	4	4
	when using 5.6mm tubes	double-row bench	4	8	8
			QTY	Qty	QTY
1	Flexible Hose Ø32mm (1.25")		2.5m (8")	5.0m (16")	7.5m (25')
2	Coupling with 2 Glands 5.6mm		2	4	4
3	End Plug		1	2	2
4	T-piece Connector		0	1	1
-	Pipe Clip		2	5	5
-	Roll of Vinyl Tape		1	1	1

Individual Parts

ITEM	PART No.	DESCRIPTION
1	CH0121	Flexible Hose Ø35mm x 2.5m (8') Long
1	CH0122	Flexible Hose Ø35mm x 5m (16') Long
1	CH0123	Flexible Hose Ø35mm x 7.5m (25') Long
2	AC-TX001-4	Couplings with 2 Glands 5.6mm (Pack of 4)
3	18566S-5	End Plug (Pack of 5)
4	AC-TX002-2	T-piece Connector (Pack of 2)
-	19115S-10	Pipe Clip (Pack of 10)



Technical Specifications

Max. Number of Stations	8
Flow Rate per Station	>28 l/min
Noise Level	<55dBA
Dimensions W x D x H	508 x 254 x 388mm (20" x 10" x 15.3")
Weight	9 kg (20 lbs)
Voltage	100 - 240 VAC
Frequency	50 -60 Hz
Power	85 Watt
Max Duct Run	30m (100 ft)
Certification	UL/CSA/CE

Iron Adapter Kits (also see page 27)

AC-FX1 Universal tip extraction Iron Adapter Clip
Includes:
2x Universal Clips - replacement part no. BTX-UC01 (pack of 10)
1x Silicon Hose - replacement part no. 18574S-5 (pack of 5)
1x Cleaning Brush - replacement part no. DS03-910-5 (pack of 5)
1x Stainless Tube - replacement part no. 20233S-5 (pack of 5)
4x S Clips - replacement part no. 20237S-5 (pack of 5)
1x Connecting Gland - replacement part no. 18576S-5 (pack of 5)

DS03-929 Tip extraction Iron Adapter Clip for Metcal MX-500
Same content as AC-FX1 except the universal clip.
Comes with Plastic Clip for MX-500 (replacement part no. 18863S-5 - pack of 5)

DS03-930 Tip extraction Iron Adapter Clip for Metcal SP200
Same content as AC-FX1 the universal clip.
Comes with Plastic Clip for SP200 (replacement part no. 18864S-5 - pack of 5)

System

BTX-208	Filter unit for 8 Tip Extraction Stations, Pre/HEPA/Gas

CONNECTION KITS

BTX-CK2-25	Connection Kit for 2-4 Stations with 2.5m (8') Long Hose
BTX-CK4-50	Connection Kit for 4-8 Stations with 5m (16') Long Hose
BTX-CK4-75	Connection Kit for 4-8 Stations with 7.5m (25') Long Hose

REPLACEMENT FILTERS

FP-BVX200	Pre-Filter (Pack of 5)
FM-BVX200	Main Filter, HEPA 99.95%/Carbon





Setting a New Benchmark In Performance

OK International's multi-user MFX-2200 Series Fume Extraction Systems set a new benchmark in performance, delivering a maximum airflow of 900m^3/h and a maximum suction force of 1,075 Pa.

Capable of providing filtration for up to eight manual assembly workstations, the MFX-2200 Series Fume Extraction Systems' power can also be harnessed to remove particulates and gases from exhaust cabinets and even small bench-top wave and reflow soldering ovens.

For general electronics assembly applications, a combined filtration model features pre, HEPA (99.97% efficient @ 0.3μm) and gas filters. For more specific applications, such as removing solvent vapours from bonding and under-fill operations, a gas filtration model is available featuring a pre-filter and 11kg high capacity activated carbon cartridge.

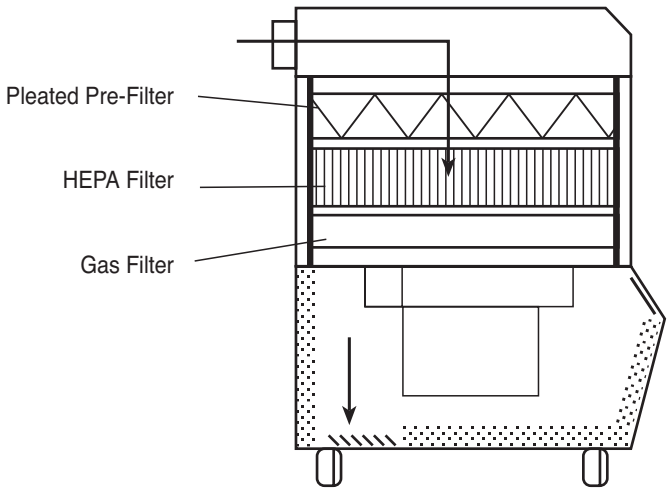
Measuring 450mm wide, by 525mm deep and 670mm tall, the unit can accept either a 457mm by 406mm by 120mm HEPA filter or the activated carbon filter. Due to the size of the filter, the MFX-2200 Series Fume Extraction Systems can process more fumes for substantially longer periods before requiring a filter change, thereby reducing maintenance costs and workplace disruption.

MFX-2200C Particle Fume Extraction System

OK International's new multi-user MFX-2200C Fume Extraction System provides the ultimate performance in a compact size that easily fits under most workbenches. It is ideal for removing solder fumes and filtering laser fumes. The lid features 4 air inlet ports for connection to Omniflex arms. By using a hose splitter in conjunction with BVX arms, the number of connected arms can be doubled

Features

- Excellent air flow performance
- Large, pleated pre-filter
- HEPA filter rating of 99.97% at 0.3 micron
- Casters as standard
- Dust filter seal keeps filter housing clean
- Minimum operating noise
- Compact size, unit fits under most workbenches
- Connects up to 4 Omniflex arms with rectangular nozzle (EA1122) or large hood (EA1126)
- Connects up to 8 BVX arms or 8 Omniflex arms with tapered nozzle (EA1124)



Controls and Filter Monitor

- Unit On/Off Switch with power indicator light
- Thermal overload protection
- Analog models with filter status gauge
- Digital models with filter status indicator lights and other control options

Options

AC2204 Top Cover with 2 Air inlets Ø100mm (4") and 2 Air Inlets Ø63mm (2,.5")

Replacement Parts

FIL22P030 Prefilter Pleated 60% Efficiency (Pack of 2)
FIL22HO70 Combination Filter HEPA/Carbon

Technical Specifications

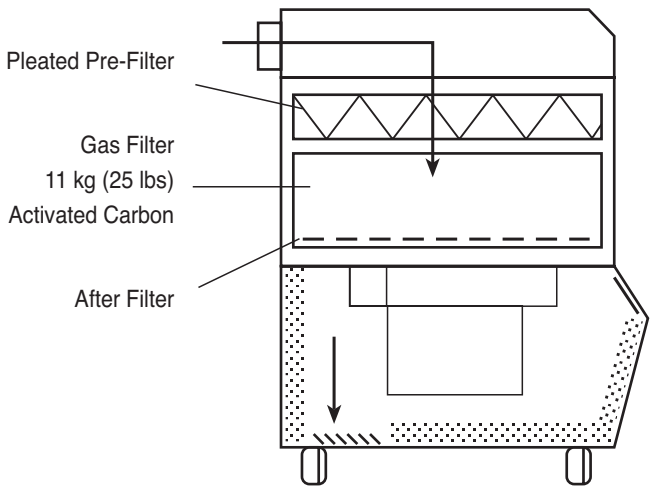
	MFX-2200C-A (Analog) MFX-2200C-D (Digital) 110V	MFX-2206C-A (Analog) MFX-2206C-D (Digital) 230V
Air Inlet Openings	4x Ø2.5"	4x Ø63mm
Fan Capacity	600 cfm	900m³/h
Flow Rate	400 cfm	600m³/h
HEPA Efficiency	99.97% at 0.3 micron	99.97% at 0.3 micron
Static Pressure	4.5" WC Maximum	1075 Pa
Power Supply	100-120VAC, 60Hz	220-240VAC, 50Hz
Power	400 Watt	400 Watt
Noise Level	58 dBA	58 dBA
Dimensions (W x D x H)	17.7" x 20.75" x 26.4"	450 x 525 x 670mm
Weight	93 lbs	43 kg
Certification	UL, CSA	CE
Max. Duct Run	30m	30m

MFX-2200G Gas Fume Extraction System

The new MFX-2200G Fume Extraction System has been specifically designed for the removal of gases and vapors from a range of heavy duty bench-top applications, including solvent cleaning, gluing/bonding and conformal coatings. The unit's high capacity gas filter cartridge ensures a long dwell-time of the gases inside the filter media, resulting in the most efficient removal of gases. The unit's lid features 100mm (4") and 63mm (2.5") air inlet flanges, making it suitable for the connection of exhaust arms or cabinets.

Features

- Excellent filtration efficiency
- Large, pleated pre-filter
- Casters as standard
- Minimum operating noise
- Provides air flow for two exhaust cabinets



Controls and Filter Monitor

- Unit On/Off Switch with power indicator light
- Thermal overload protection
- Analogy models with filter status gauge
- Digital models with filter status indicator lights and other control options

Options

AC2202 Top Cover with 4 Air inlets Ø63mm (2.5")

Replacement Filters

FIL22P040	Pre-Filter Pleated 85% Efficiency
FIL22G010	Gas Filter Cartridge 11kg (25lbs)
FIL22G020	Carbon Refill Kit 11kg (25lbs)

Technical Specifications

	MFX-2200G-A (Analog) **MFX-2200G-D (Digital)** **110V**	**MFX-2206G-A (Analog)** **MFX-2206G-D (Digital)** **230V**
Air Inlet Openings	2 x Ø4" and 2 x Ø2.5	2 x Ø100mm and 2 x Ø63mm
Fan Capacity	600 cfm	900m³/h
Flow Rate	350 cfm	550m³/h
Static Pressure	4.5" WC Maximum	1075 Pa Maximum
Power Supply	100-120 VAC, 60Hz	220-240 VAC, 50Hz
Power	400 Watt	400 Watt
Noise Level	58 dBA	58 dBA
Dimensions (W x D x H)	17.7" x 20.75" x 28"	450 x 525 x 710mm
Weight	115 lbs	52 kg
Certification	UL, CSA	CE
Max. Duct Run	30m	30m



Omniflex Arms

Omniflex Arms are (Ø63mm) are designed for higher airflow rates and effective fume capture from greater distances. A unique ball/socket design provides an unmatched flexibility in manoeuvring and positioning. The arms can be adjusted in working length or radius, simply by adding or removing Omniflex components. ESD conformance is ensured through the use of fully conductive material.



A



B



C



D

Features

- 140m³/h (85cfm) air flow rating (varies with nozzle)
- 63mm (2.5") diameter
- 0.6m (24") long with optional extensions of 300mm (12")

Part Numbers

A	**EA1122**	Omniflex Arm ESD with Rectangular Nozzle
B	**EA1124**	Omniflex Arm ESD with Tapered Nozzle
C	**EA1126**	Omniflex Arm ESD with Large Hood 350 x 212mm (14" x 8.5")
D	**AC1101**	Damper for Omnflex Arm
	AC1102	Omniflex Arm Extension 300mm (12") long

All Omniflex arms are supplied with mounting plates and C-clamps



BVX Arms

BVX Arms (Ø50mm) are most economic solution while providing good airflow rates and high flexibility. The spiral rolled duct can be tightened in stiffness and can be positioned precisely. The BVX Arm-K2 kit includes a mounting plate and c-clamps for universal mounting. A Y-connection piece is available to connect two BVX Arms to one hose.

Features for BVX Arms

- 75m³/h (45cfm) air flow rating
- 50mm (2") ducting with 40mm (1.75") nozzle
- 710mm (28") long

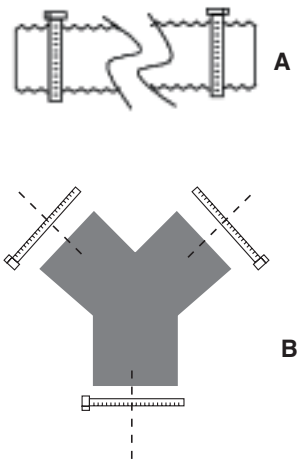
Part Numbers for BVX Arms

BVX-ARM-K2	BVX Arm ESD with Nozzle, Mounting Plate and C-Clamps

For individual Components Refer to BVX Section

Connection Hoses for Omniflex and BVX Arms

A CH0251	Connection Hose 2.5m xØ63mm (8" x 2.5") with clamps
A CH0252	Connection Hose 3.5m xØ63mm (12" x 2.5") with clamps
A CH0253	Connection Hose 7.5m xØ63mm (25" x 2.5") with clamps
B AC2025	Y-Piece for Ø63mm (2.5") hose with clamps



EC1800 Exhaust Cabinet

Volatile vapors and gases with high toxic levels often require the use of exhaust cabinets to protect the user.

The EC1800 is an ideal bench cabinet for such applications. A hinged and clear viewing panel maintains excellent visibility while at the same time reducing the airflow demand on the cabinet.



Features

- Dimensions W x D x H
  760 x 510 x 560mm (30" x 20" x 22")
- Connection Flange Ø100mm (4")

Part Numbers

EC1800	Exhaust Cabinet with Clear Viewing Panel
CH0047	Connection hose 2.5m (8') Long Ø100mm (4") with Clamps



Fluid Dispensing Systems

For over 40 years, OK International has been providing reliable dispensing solutions to a diverse array of industries. Now, our signature 900 System Premier Components and DX Platform of dispensers dispensing systems can be found with the complete line of OK International products.

OK International's fluid dispensing line of products offers a wide array of products and provides dispensing components ranging from disposable accessories to easy-to-use microprocessor controlled dispensing systems.

Our benchtop dispensing components are silicone free, feature precise control and are designed to work with industry standard equipment. And, they are dependable for both time-pressure and manual applications.

Our systems ensure accuracy, repeatability and productivity all within your budget.

DX-350	Advanced Digital Dispenser/Controller	55
DX-250	Entry Level Digital Dispenser/Controller	56
900 System	Dispensing Consumables	57
900 System	Dispensing Needles	58 - 59
900 System	Accessories	60



DX-350 Digital Dispenser / Controller



The DX-350 offers 10 user programmable dispense routines and 4 operating modes. The time, pressure and vacuum read-outs are displayed digitally. It is intuitive to use and allows accurate reproduction of sequences of beads or dots.

The DX-350 includes an adjustable vacuum feature for controlling of drip fluids between dispense cycles. A vacuum read-out is included to monitor suck-back. Packaged ready to use, with sample tips, barrels and syringe adapters.

Available in two versions of operating pressure: 0 to 100 psi for general applications, and 0 to 15 psi for specific low viscosity applications.

Specifications	
Size:	6" x 7" x 6" (15.2 x 17.8 x 15.2)
Voltage:	24V DC power adapter provided
Time Range:	0.008 to 60.000 seconds
Memories:	10 programmable
Cycle Mode:	Timed, interrupt, teach and purge
CE certified	

DX-350	Digital Dispenser 0 to 100 psi (0 to 6.9 bar)
DX-355	Digital Dispenser 0 to 15 psi (0 to 1.0 bar)

DX-250 Digital Dispenser / Controller

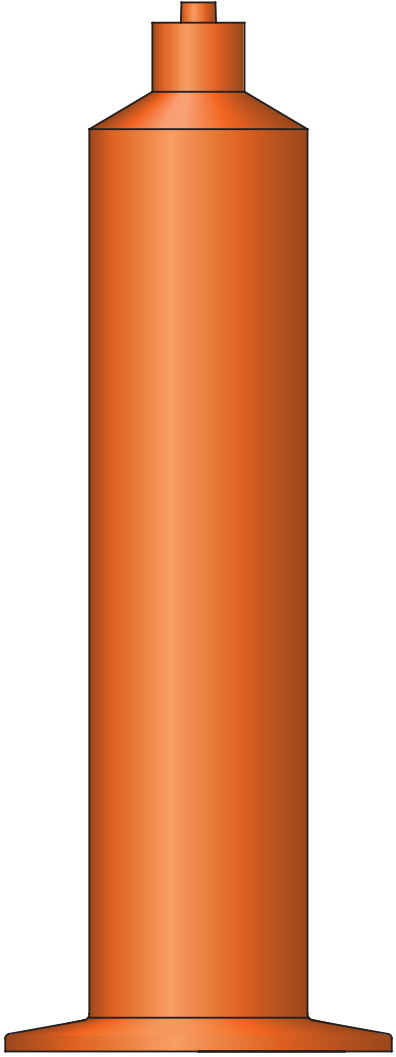


The DX-250 Series Digital Dispensers/Controllers are economical, highly accurate and repeatable micro-air dispensing systems. These precision fluid dispensing systems include digital timer, vacuum control for all viscosities of fluids. Packaged ready to use with power adapter, air hose, sample tips, barrel and syringe adapter.

Available in two versions of operating pressure: 0 to 100 psi for general applications, and 0 to 15 psi for specific low viscosity applications.

Specifications	
Size:	6" x 7" x 6" (15.2 x 17.8 x 15.2 cm)
Voltage:	24V DC power adapter provided
Time Range:	0.020 to 60.000 seconds
Cycle Mode:	Timed and purge
CE certified	

DX-250	Digital Dispenser 0 to 100 psi (0 to 6.9 bar)
DX-255	Digital Dispenser 0 to 15 psi (0 to 1.03 bar)



Syringes

Unique ultra-low draft construction of inner diameter yield high accuracy and stability. The syringes are comprised of industry compliant silicone and chloride free, low friction polypropylene. Available in three different colours: Natural for most generic applications; Amber provides protection of UV/visible light block (up to 520nm), but with the ability to see material inside barrel; Black for total light block. Sold in packs of 50.

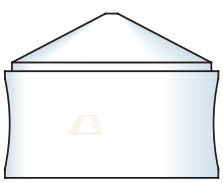
Size	NATURAL	DARK AMBER	BLACK
3cc	903-N	903-D	903-B
5cc	905-N	905-D	905-B
10cc	910-N	910-D	910-B
30cc	930-N	930-D	930-B
55cc	955-N	955-D	955-B

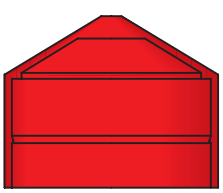
Syringe Assembly Kits

For your convenience these syringes and pistons are packaged together in ready-to-use kits of 50 each (syringe and corresponding Wiper Piston).

Size	NATURAL
3cc	903-NW
5cc	905-NW
10cc	910-NW
30cc	930-NW
55cc	955-NW

Air Powered Pistons





Wiper Pistons (white) provide a seal for low to medium viscosity fluids. Straight Wall Pistons (red) are recommended for reduced stringing with medium to high viscosity fluids. Both styles of pistons are made from Polyethylene. Available in packs of 50.

Size	Wiper Piston *(White)*	Straight Wall *(Red)*
3cc	903-WW	903-SWR
5cc	905-WW	905-SWR
10cc	910-WW	910-SWR
30/55cc	93055-WW	93055-SWR

Tip Cap



Use with 900 System Syringes to seal barrel between uses or to seal any valve. Fits all syringe sizes. Made from Polypropylene. Available in packs of 50.

900-ORTC	Tip Care Double Helix Thread Orange
900-BTC	Tip Care Double Helix Thread Black

End Caps

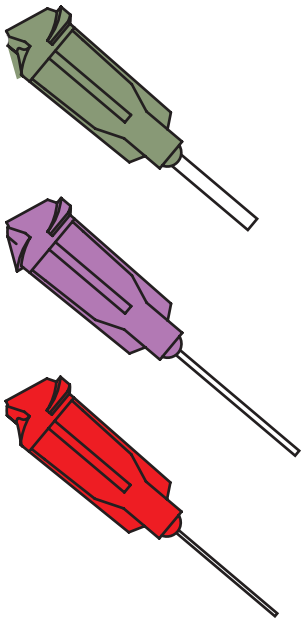


Prevent wasteful leaks with end caps. Made from Polyethylene. Available in packs of 50.

Size	End Cap
3cc	903-EC
5cc	905-EC
10cc	910-EC
30/55cc	93055-EC

TE Needle Series

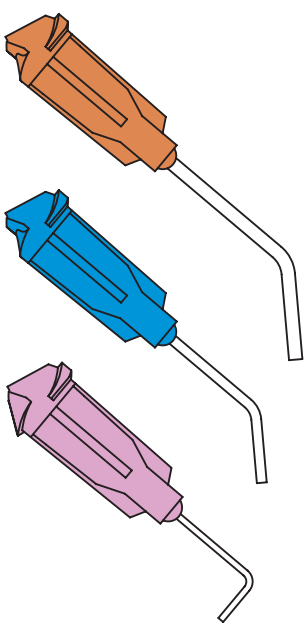
The TE Needle series consist of a stainless-steel cannula with a double helix Polypropylene hub.



This premier line of dispensing needles is burr-free, and electro-polished cannula for unobstructed and consistent material flow. In addition they are silicone and chloride free. Sold in packs of 50

Gauge	1/4" (6.4mm)	1/2" (12.7mm)	1" (25.4mm)	1-1/2" (38.1mm)
14		914050-TE	914100-TE	914150-TE
15		915050-TE	915100-TE	915150-TE
18	918025-TE	918050-TE	918100-TE	918150-TE
20	920025-TE	920050-TE	920100-TE	920150-TE
21	921025-TE	921050-TE	921100-TE	921150-TE
22	922025-TE	922050-TE	922100-TE	922150-TE
23	923025-TE	923050-TE	923100-TE	923150-TE
25	925025-TE	925050-TE		
27	927025-TE	927050-TE		
30	930025-TE	930050-TE		
32	932025-TE			

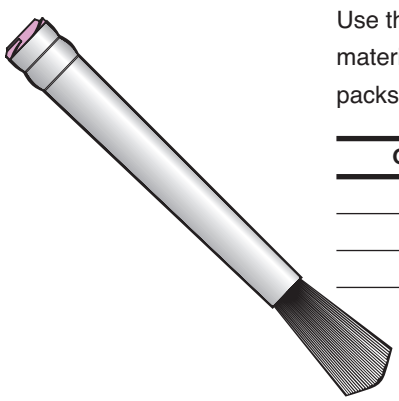
TE Bent Needle Series



These TE needles are precision bent at 45° and 90° angles. Perfect for dispensing fluid in hard to reach places. Sold in packs of 50.

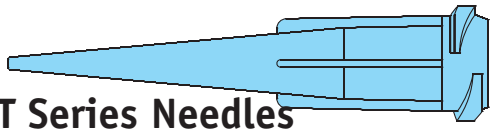
Gauge	1/2" (12.7mm) 90°	1/2" (12.7mm) 45°	1-1/2" (38.1mm) 45°
14	914050-90BTE	914050-45BTE	914150-45BTE
15	915050-90BTE	915050-45BTE	
18	918050-90BTE	918050-45BTE	918150-45BTE
20	920050-90BTE	920050-45BTE	
21	921050-90BTE	921050-45BTE	921150-45BTE
22	922050-90BTE	922050-45BTE	
23	923050-90BTE	923050-45BTE	
25	925050-90BTE	925050-45BTE	
27	927050-90BTE	927050-45BTE	
30	930050-90BTE	930050-45BTE	

BT Series



Use these Double Helix Brush Tips for "spread" applications such as glues and other materials. Soft brush is made of Red Sable. Stiff brush is made of Nylon. Available in packs of 12.

Gauge	Soft Bristle	Stiff Bristle
16	916BT-SOFT	916BT-STIFF
18	918BT-SOFT	918BT-STIFF
22	922BT-SOFT	922BT-STIFF



TT Series Needles

These tips are molded in high density polyethylene with UV light block additive and include a double helix luer lock hub. The tapered tip prevents blockage and increases the flow of high viscosity materials. Sold in packs of 50.

Gauge	Colour	TT Needle
14	Olive	914125-DHUV
16	Grey	916125-DHUV
18	Green	918125-DHUV
20	Pink	920125-DHUV
22	Blue	922125-DHUV
25	Red	925125-DHUV
27	White	927125-DHUV

Needle Dispensing Kit

Decide for yourself which needle to use. This kit contains a selection of OK International's most popular TE, TE Bent and TT Needles to let you test different needles to find the ones that fit your needs.

900-NK	Needle Dispensing Kit



TS-P Plastic Series Needles

Flexible tips allow access to hard to reach areas and allow you to "customize" the length. Ideal for CA applications. Both hub and cannula are made from Polypropylene. 1 1/2" length. Sold in packs of 50.

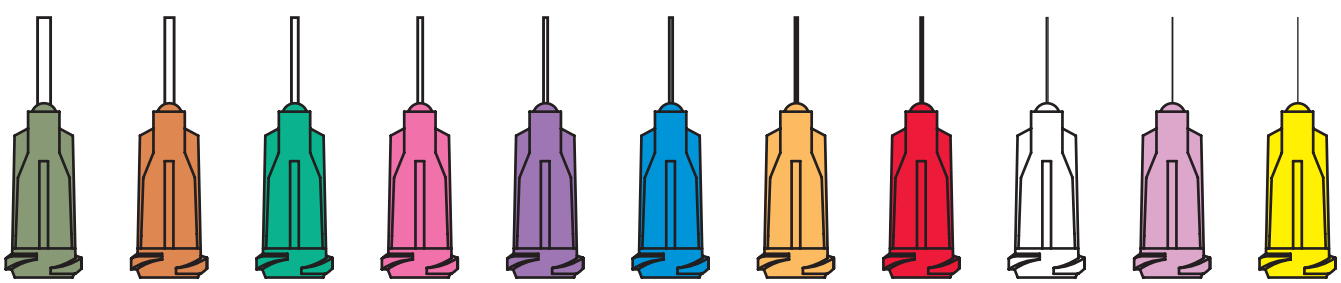
Gauge	Colour	TS-P Needle
15	Grey	915150-PTS
16	Brown	916150-PTS
18	Pink	918150-PTS
20	Yellow	920150-PTS
22	Black	922150-PTS
25	Red	925150-PTS



Colour Coding and Gauge

For TE Series and TE Bent Needles

	Gauge	Colour	I.D. (inches)	!.D.(mm)
	14	Olive	0.063	1.600
	15	Amber	0.054	1.371
	18	Green	0.033	0.838
	20	Pink	0.024	0.610
	21	Purple	0.020	0.508
	22	Blue	0.016	0.406
	23	Orange	0.013	0.330
	25	Red	0.010	0.254
	27	Clear	0.008	0.203
	30	Lavender	0.006	0.152
	32	Yellow	0.004	0.102





Receiver Head Assembly

Receiver Head Assemblies are the connecting link between time/pressure controllers and Syringe assemblies. These Assemblies provide a safe connection for accident proof dispensing. Available with 3 or 6 feet of tubing. Consists of receiver head with O-ring, tubing and male quick connector. Receiver heads are made of Delrin. Sold individually.

Size	3' Hose	6' Hose
3cc	903-3RHB	903-6RHB
5cc	905-3RHB	905-6RHB
10cc	910-3RHB	910-6RHB
30/55cc	93055-3RHB	93055-6RHB



Manual Syringe Gun

Lightweight barrel applicator gun provides excellent control for medium/high viscosity products. Easy to use. No dripping or mess.

Size	Manual Syringe Gun
5cc	905-MSG
10cc	910-MSG
30cc	930-MSG
55cc	955-MSG



Foot Valve Dispensers

The 924-DFV and 924-DFV-VAC dispensers offer the best of both worlds: increased production combined with dispenser economy. Floor mounted, they have built in pressure regulator, pressure gauge and a unique fast-dump, three-way air valve. Output rate and shot size are operator controlled.

Specifications	
Size:	8" x 5" x 5" (20.3cm x 12.7cm x 12.7cm)
Input Pressure:	100 psi maximum (6.9 bar)
Operating Pressure:	0 to 100 psi maximum (0 to 6.9 bar)

924-DFV	Dispenser Foot Valve
924V-DFV-VAC	Dispenser Foot Valve with Vacuum



Vacuum Pencil

Use for pick and place function. Stand-alone vacuum pick-up requires shop air. Optional Mixed Kit of Vacuum Cups also available.

TS-8120	Vacuum Pick Up Assembly



Syringe Holder

Use for 900 System syringes.

SH-300	Syringe Holder



Finger Switch Assembly

Use for Finger Switch with OK International's dispensers and syringes in place of a foot pedal. Provides control at your finger tip.

DX9010	Finger Switch Assembly for DX Series Dispenser

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