EN - For pricing and availability in your local country please visit one of the below links:

DE - Informationen zu Preisen und Verfügbarkeit in Ihrem Land erhalten Sie über die unten aufgeführten Links:

FR - Pour connaître les tarifs et la disponibilité dans votre pays, cliquez sur l'un des liens suivants:

DSC-7CN0008A. DSC-7CN0013A. DSC-7CN0015S. HCT-900-21 GT90-HP-T4

GT6-CH0014S DS03-930 HW-UW-2426

EN
This Datasheet is presented by the manufacturer

DE
Dieses Datenblatt wird vom Hersteller bereitgestellt

FR
Cette fiche technique est présentée par le fabricant

METCAL™

Advanced
Soldering Solutions

Driving the Evolution of the Benchtop

METCAL™

The Metcal Story

Metcal is a benchtop solutions expert that has delivered broad value to customers since its Silicon Valley beginnings in 1982.

Offering unrivaled performance, risk mitigation, and ROI, we give electronics manufacturers the tools – and the confidence – they need to develop faster, safer, more advanced products.

Metcal's track record of innovation is legendary. With SmartHeat®, Connection Validation™ and the addition of the GT variable temperature systems, Metcal breakthroughs have empowered our global electronics assembly customers in the automotive, aerospace, medical device, and military sectors. And today we're accelerating the pace of global innovation even further, forging developments in hand soldering, convection rework, fume extraction, and fluid dispensing.

Looking to the future, Metcal's industrial ingenuity, and its enduring passion for problem solving, will continue to drive the evolution of the benchtop.

We're Metcal, an OK International company.

www.metcal.com

Table of Contents

Hand Soldering, Desoldering & Rework Systems

Ultimate Performance Through Inductive Technology

Metcal soldering systems use powerful, reliable inductive heating technology, achieving faster time-to-temperature, shorter dwell times, and faster thermal recovery than comparable resistive heating systems.

What does this mean for the user? Fast, efficient soldering, even on difficult high thermal mass applications.

Metcal SmartHeat® Technology maintains the exact temperature needed for each solder joint and responds by delivering the precise amount of thermal energy required to create a reliable connection.

Connection Validation™ (CV) Technology evaluates the quality of each solder joint by calculating the intermetallic compound (IMC) formation. Closed-loop feedback is provided to the operator via the LED-equipped hand-piece. CV technology marks a significant advancement in hand soldering process control.

GT Series, Best-in-Class Adjustable Temperature Soldering Systems

The GT Series are the culmination of over 35 years of work developing and refining hand soldering solutions. The GT90 & GT120 soldering systems are powered by induction, achieving the performance and versatility the industry requires, with the flexibility and control of adjustable temperature.

GT90 & GT120
Best-in-Class Adjustable Temperature Soldering Systems

Metcal's first adjustable soldering station is a high performance single iron unit with replaceable tip and cartridge options. (See pages 4-7)

CV-5210 & CV-510
Connection Validation™ Soldering Systems

Metcal offers two unique Connection Validation™ Soldering Systems. The CV-5200 series features the patented Connection Validation™ IMC formation technology along with SmartHeat® power-on-demand. (See pages 8-10)

MX-5200 & MX-500
Soldering & Rework Systems

The MX Soldering and Rework Systems have set the industry standard for decades. These workhorse systems use SmartHeat® technology and offer the longest warranty in the industry. (See pages 11-13)

Multi-Function Rework
MFR Systems

The MFR Series offers dual or single output capability in a compact package. These versatile systems can be used with a variety of soldering and desoldering hand-pieces for most applications. (See pages 28-31)

PS-900
Production Soldering System

The PS-900 provides power and exceptional Smart-Heat® thermal control in a small benchtop footprint. This durable station is perfect on the production line. (See page 32)

GT120 & GT90 Soldering Systems

GT90 and GT120 are ultra-high performance adjustable temperature soldering systems powered by inductive heating and controlled with an advanced closed loop algorithm. The inductive process allows heat to transfer efficiently to the tip and allows the system to react faster than typical resistive systems.

Power Station	GT90	GT120
Soldering Temperature Range	150 to 450 °C 302 - 842 °F	
Input Line Voltage	100 - 240 VAC (120 VAC for U.S.) grounded circuit, universal input	
Input Frequency	50/60 Hz	
Channels	Single Port	
Power Input	90 W	120 W
Dimensions - Soldering Station (w x d x h)	11.0 x 12.5 x 16 cm 4.3 x 4.9 x 6.1 in	
Weight - Soldering Station w/ Power Adapter	1.68 kg 3.7 lb	
Display	2.5" monochrome LCD Display	
Controls	4 tactile buttons	
Communications	1 x USB A	
Standby Timer	10 - 480 seconds	
Sleep Timer	1 - 100 minutes	
Free Range Tip Temperature Adjustment	Yes	
Tip Temperature Presets	3	
Firmware Upgrade	Via USB port with memory stick	
Tip-to-Ground Potential	< 2 mV	
Tip-to-Ground Resistance	< 2 ff	
Tip Temperature Accuracy	Meets or exceeds IPC J-STD-001	
Idle Temperature Stability	3 1.1 °C (2.0 °F) in still air	
Power Station Warranty	1 Year	2 Years
Certifications	CE, TUV	
Hand-piece		
Hand-piece connector	8-pin circular DIN	
Hand-piece cord length	1.5 m (5'), burn proof, ESD safe	

Key Features & Benefits

Higher Performance
allows for improved productivity

Replaceable Tips and Improved Tip Life
to reduce operational costs

Intuitive User Interface
for easy setting changes and adjustments to the system

USB Port
to power accessories (mobile phone, fan, light) and to upgrade firmware

Inductive Technology Improves

- Initial Time To Temperature
- Temperature Recovery
- Temperature Stability
- Dwell Time

Tips & Cartridges

Offered with lower cost consumable tips that meet or exceed the performance of other competitive tips and cartridges

GT4-xxxxx
T4 Family of Tips

GT6-xxxxx
T6 Family of Tips

GTC-xxxxx
Standard Cartridge

T6 Hand-Piece Configuration

Compact hand-piece design allows use for low and high thermal demand applications. Not offered by any competitor in the market. Single hand-piece allows you to choose between tips and cartridges

GT-RT-T6
T6 Retainer

GT-HC-T6
T6 Heater Cartridge

GT-RT-C
Cartridge Retainer

T4 Hand-Piece Configuration

Compact hand-piece design allows use for low and medium thermal demand applications.

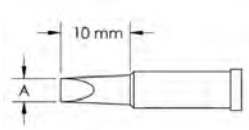
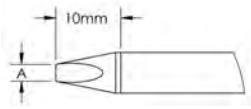
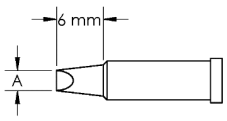
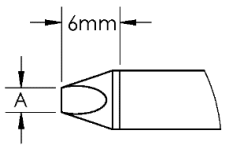
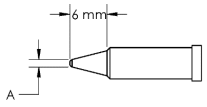
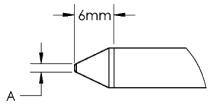
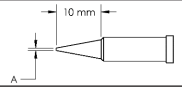
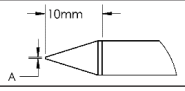
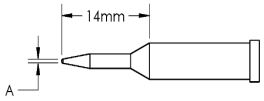
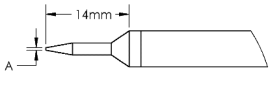
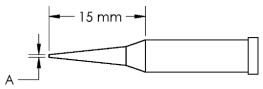
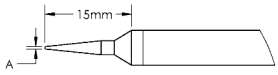
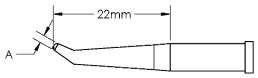
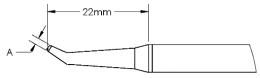
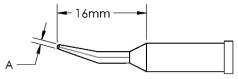
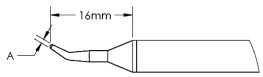
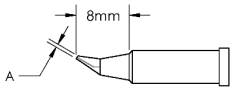
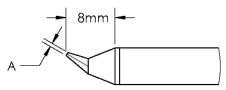
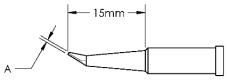
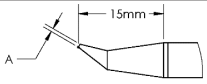
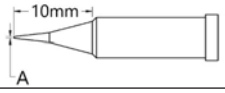
GT-RT-T4
T4 Retainer

GT-HC-T4
T4 Heater Cartridge

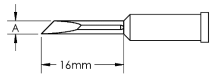
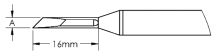
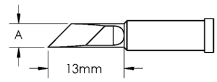
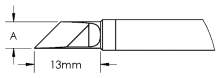
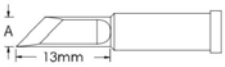
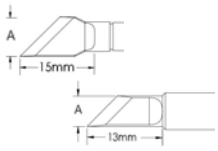
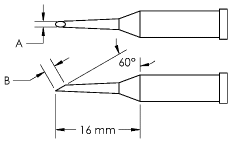
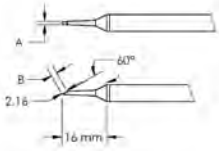
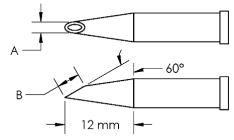
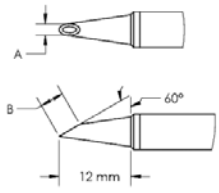
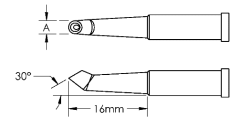
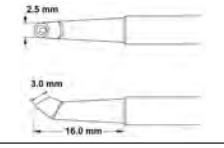
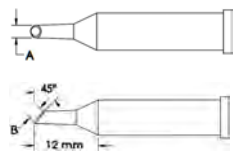
GT-WS Work Stand

Stand can store up to 8 tip/cartridges, has a splash guard, and also includes a brass/wool sponge

System/Accessories	Part Number
GT90 System (tips sold separately)	GT90-HP-T4
GT120 System (tips sold separately)	GT120-HP-T6
Cleaning Sponge (Pack of 10)	GT-YS10
Cleaning Brass Pad (Pack of 10)	GT-BP10
Hand-Piece Grip Replacement (Pack of 5)	GT-GR-BK
Tip/Cartridge Removal Pad	MX-CP1
T4 Heater Cartridge	GT-HC-T4
T6 Heater Cartridge	GT-HC-T6
T4 Hand-Piece	GT-HP-T4UF
T6 Hand-Piece	GT-HP-T6C
T4 Hand-Piece w/ Heater	GT-HPHC-T4UF
T6 Hand-Piece w/ Heater	GT-HPHC-T6UF

Chisels					
GT4	GT6/GTC	GT4 - Tip	GT6 - Tip	GT6 - Cartridge	Dimension A x Length
		GT4-CH0010S	GT6-CH0010S	GTC-CH0010S	1.0 x 10.0 mm
		GT4-CH0014S	GT6-CH0014S	GTC-CH0014S	1.4 x 10.0 mm
		GT4-CH0018S	GT6-CH0018S	GTC-CH0018S	1.8 x 10.0 mm
		GT4-CH0025S	GT6-CH0025S	GTC-CH0025S	2.5 x 10.0 mm
		GT4-CH0032S	GT6-CH0032S	GTC-CH0032S	3.2 x 10.0 mm
		GT4-CH0040S	GT6-CH0040S	GTC-CH0040S	4.0 x 10.0 mm
			GT6-CH0050S	GTC-CH0050S	5.0 x 10.0 mm
			GT6-CH0060S	GTC-CH0060S	6.0 x 10.0 mm
		GT4-CH0010P	GT6-CH0010P	GTC-CH0010P	Power, 1.0 x 10.0 mm
		GT4-CH0014P	GT6-CH0014P	GTC-CH0014P	Power, 1.4 x 10.0 mm
		GT4-CH0018P	GT6-CH0018P	GTC-CH0018P	Power, 1.8 x 10.0 mm
		GT4-CH0025P	GT6-CH0025P	GTC-CH0025P	Power, 2.5 x 10.0 mm
		GT4-CH0032P	GT6-CH0032P	GTC-CH0032P	Power, 3.2 x 10.0 mm
		GT4-CH0040P	GT6-CH0040P	GTC-CH0040P	Power, 4.0 x 10.0 mm
			GT6-CH0050P	GTC-CH0050P	Power, 5.0 x 10.0 mm
			GT6-CH0060S	GTC-CH0060P	Power, 6.0 x 10.0 mm
				GTC-CH0070P	Power, 7.0 x 10.0 mm
Conicals					
		GT4-CN0005P	GT6-CN0005P	GTC-CN0005P	Power, (Ø x L) 0.5 x 6.0 mm
		GT4-CN0010P	GT6-CN0010P	GTC-CN0010P	Power, (Ø x L) 1.0 x 6.0 mm
		GT4-CN0005S	GT6-CN0005S	GTC-CN0005S	(Ø x L) 0.5 x 10.0 mm
		GT4-CN0005A	GT6-CN0005A	GTC-CN0005A	Access, (Ø x L) 0.5 x 14.0 mm
		GT4-CN0010A	GT6-CN0010A	GTC-CN0010A	Access, (Ø x L) 1.0 x 14.0 mm
		GT4-CN1502A	GT6-CN1502A	GTC-CN1502A	Sharp, (Ø x L) 0.2 x 15.0 mm
		GT4-CN1505A	GT6-CN1505A	GTC-CN1505A	Sharp, (Ø x L) 0.5 x 15.0 mm
		GT4-CN2213R	GT6-CN2213R	GTC-CN2213R	Bent, Reach, (Ø x L) 1.3 x 22.0 mm
		GT4-CN1608R	GT6-CN1608R	GTC-CN1608R	Bent, Access, (Ø x L) 0.8 x 16.0 mm
		GT4-CN0002R	GT6-CN0002R	GTC-CN0002R	Bent, (Ø x L) 0.2 x 8.0 mm
		GT4-CN0004R	GT6-CN0004R	GTC-CN0004R	Bent, (Ø x L) 0.4 x 8.0 mm
		GT4-CN1505R	GT6-CN1505R	GTC-CN1505R	Bent, Reach (Ø x L) 0.5 x 15.0 mm
		GT4-CN0002S	--	--	Sharp (Ø x L) 0.2 x 10.0 mm

For our complete selection of tips & cartridges, visit www.metcal.com

Knife					
GT4	GT6/GTC	GT4 - Tip	GT6 - Tip	GT6 - Cartridge	Dimension A x Length
		GT4-KN0025S	GT6-KN0025S	GTC-KN0025S	2.5 x 16.0 mm, 45°
		GT4-KN0040S	--	--	4.0 x 16.0 mm, °45
		--	GT6-KN0050S	GTC-KN0050S	5.0 x 16.0 mm, °45
		GT4-KN0025P	GT4-KN0025P	GTC-KN0025P	Power, 2.5 x 13.0 mm, 45°
		GT4-KN0040P	--	--	Power, 4.0 x 13.0 mm, 45°
		--	GT4-KN0050P	GT4-KN0050P	Power, 5.0 x 13.0 mm, 45°
		--	--	GT4-KN0080P	Power, 5.0 x 13.0 mm, 45°
		GT4-KN0040PP	--	--	Xtra Power, 4.0 x 13.0 mm, 45°
		--	GT6-KN0050PP	GTC-KN0050PP	Xtra Power, 5.0 x 13.0 mm, 45°
		--	--	GTC-KN0080PP	Xtra Power, 8.0 x 13.0 mm, 45°
Hoof					
		GT4-HF6010S	GT6-HF6010S	GTC-HF6010S	(Bevel/L) 60° x 2.0, (Ø x L) 1.0 x 16.0 mm
		GT4-HF6015S	GT6-HF6015S	GTC-HF6015S	(Bevel/L) 60° x 3.0, (Ø x L) 1.5 x 16.0 mm
		GT4-HF6020S	GT6-HF6020S	GTC-HF6020S	(Bevel/L) 60° x 4.0, (Ø x L) 2.0 x 16.0 mm
		GT4-HF6030S	GT6-HF6030S	GTC-HF6030S	(Bevel/L) 60° x 6.0, (Ø x L) 3.0 x 16.0 mm
		--	GT6-HF6040S	GTC-HF6040S	(Bevel/L) 60° x 8.0, (Ø x L) 4.0 x 16.0 mm
		GT4-HF6010V	GT6-HF6010V	GTC-HF6010V	Concave, (Bevel/L) 60° x 2.1 mm (Ø x L) 1.0 x 12.0 mm
		GT4-HF6015V	GT6-HF6015V	GTC-HF6015V	Concave, (Bevel/L) 60° x 3.1 mm (Ø x L) 1.5 x 12.0 mm
		GT4-HF6020V	GT6-HF6020V	GTC-HF6020V	Concave, (Bevel/L) 60° x 4.1 mm (Ø x L) 2.0 x 12.0 mm
		GT4-HF6030V	GT6-HF6030V	GTC-HF6030V	Concave, (Bevel/L) 60° x 6.1 mm (Ø x L) 3.0 x 12.0 mm
		GT4-HF3025V	GT6-HF3025V	GTC-HF3025V	Bent 30°, (Bevel/L) 30° x 3.0 mm (Ø x L) 2.5 x 16.0 mm
		GT4-HF4521S	--	--	(Bevel/L) 45° x 2.5, (Ø x L) 2.1 x 12.0 mm
		GT4-HF4532S	--	--	(Bevel/L) 45° x 4.0, (Ø x L) 3.2 x 12.0 mm

For our complete selection of tips & cartridges, visit www.metcal.com

CV-5210 & CV-510

Connection Validation™ (CV) Series Systems

The intermetallic compound (IMC) thickness is critical in the formation of a solder joint. CV evaluates the quality of the solder joint by calculating the IMC formation and provides closed-loop feedback to the operator.

Metcal offers two unique Connection Validation™ Soldering Systems. The CV-5200 series features the patented Connection Validation™ IMC forma-tion technology along with SmartHeat® power on demand technolgy built-in. A 2.8" color touchscreen with bold graphics makes programming easy. The integrated net power meter gives a visual representation of the power on demand technology.

The CV-500 series packs all of the Connection Validation™ technology into a compact, economical housing. It is also ideal for SMD touch-up and small component rework using the Ultrafine hand-piece and Ultrafine tweezer hand-piece (both sold separately).

CV System Configuration

Part Number	Description
CV-5210	Soldering System with CV-PS5200 Power Supply
CV-510	Soldering System with CV-PS500 Power Supply
Both Systems include	
CV-H1-AV	Advanced hand-piece for CV with LED light
CV-W1AV	TipSaver Work stand
CV-CP1	Cartridge Removal Pad


LED equipped hand piece signals to operator when a good solder joint is formed.

Tip temperature displayed on large color screen.

Technical Specifications

	CV-PS5200 Power Supply	CV-PS500 Power Supply
Input Line Voltage	100 - 240 VAC, grounded circuit, 50/60 Hz	
Rated Power Consumption	125 W	85 W
Output Power	Variable, 80 W max.*	Variable, 40 W max.*
Output Frequency	13.56 MHz	
Heating Method	Induction, SmartHeat®	
Display	2.8" Color TFT Touch Display	
Connections	2 connectors, single mode 80 Watt. Dual mode power is shared dynamically	Dual port, switchable
Power Supply Dim. W x D x H	4.7 x 5.1 x 9.2 inch (121 x 130 x 235 mm)	4.7 x 4.7 x 8.7 inch (121 x 121 x 220 mm)
Power Supply Weight	7.4 lbs (3.35 kg)	5.8 lbs (2.65 kg)
Certification / Marking	cTUVus, CE	
Tip-to- Ground Potential	< 2 mV	
Tip-to-Ground Resistance	< 2 Ohm	
Idle Temperature Stability	1.1 °C (2 °F) in still air	
Tip Temperature Accuracy	Meets or exceeds IPC J-STD-001 Standard	
Communication / Firmware upgrade	Via USB port and appropriate software with compatible computer and cables.	
Surface Resistivity	10^5 - 10^9 Ohm, ESD safe	
Ground Detection	Permanent	
Warranty	5 Years	4 Years

*RF SmartHeat® Technology provides greater power.

Key Features & Benefits

- SmartHeat® Power on Demand Technology
- Patented Connection Validation™ IMC Formation Technology
- 2.8" color touchscreen with bold graphics
- Communications Port for process traceability data and firmware graphics
- Integrated Net Power Meter and power graph
  - With optional precise tip temperature display
- Patented Chip-in-Cartridge technology
  - Closed loop bi-directional communication
  - Stores and records cartridge attributes
  - Provides traceability information
  - Protects power supply from non-conforming cartridges
  - Backwards compatible with MX series power supplies
- Password protection
- Wide variety of cartridges available
- Power supply protected by 5-year warranty, longest in the industry

Connection Validation™

Hand-pieces and Upgrade Kits

Metcal offers eight different hand-pieces and upgrade kits for the Connection Validation Soldering system. These ergonomic hand-pieces transform the CV systems into a complete soldering solution for a wide variety of applications.

Advanced Hand-piece

The Advanced Hand-piece for Connection Validation incorporates an LED light ring that removes the risk associated with determining a good solder joint. It complements the skill of the operator to judge the quality of a solder joint.

- Compatible with CVC and SMC cartridges. Available in 500, 600, 700, 800 and 900 series temperatures.

See pages 17-19, 22-23 for popular cartridges

Part Number	Description
CV-H1-AV	Advanced Hand-piece for CV with LED Light
CV-UK1	Upgrade Kit, Advanced Hand-piece and Work-stand

UltraFine Hand-piece & UltraFine Tweezer Hand-piece

Metcal's UltraFine hand-pieces add a specialty tool for soldering and rework of very small components, restricted access or high density component packaging on a PCB.

- Improved temperature control: Metcal's SmartHeat® inside means lower risk of overshooting delicate components
- Designed for use under a microscope
- The UltraFine hand-piece is compatible with 600 and 700 series temperature UFC cartridges
- The UltraFine Tweezer hand-piece is compatible with 600 and 700 series temperature UFT cartridges

See page 24-25 for popular cartridges

Part Number	Description
CV-H2-UF	UltraFine Hand-piece for CV System
CV-UK2	Upgrade Kit, UltraFine Hand-piece and Work-stand
CV-H4-UFT	UltraFine Tweezer Hand-piece for CV System
CV-UK4-UFT	Upgrade Kit, UltraFine Tweezer Hand-piece and Work-stand

Precision Tweezer Hand-piece

Transform the Connection Validation Soldering Systems into a rework system for applications requiring the removal of surface mount components from 1 x 1mm on up.

- Adjustable tip alignment for both height and rotation ensures co-planarity of the tip cartridges
- Dual position pitch-switch enables adjustment of pincer-action, adjusting to the component width, improving operator ergonomics
- Quick change tip cartridges with keyway to prevent misalignment
- For use with PTC Tweezer Cartridges

See page 26 for popular cartridges

Part Number	Description
CV-H4-PTZ	Precision Tweezer Hand-piece for CV System
CV-UK4	Upgrade Kit, Tweezer Hand-piece and Work-stand

Desolder Hand-piece

Transform the Connection Validation Soldering Systems into a rework system for applications requiring the removal of solder such as through hole components.

- Designed for plated-through hole component desoldering
- The hand-piece requires shop air for operation
- Compatible with DSC cartridges available in 700, 800, and 900 series temperatures

See page 27 for popular cartridges

Part Number	Description
CV-H5-DS	Desolder Hand-piece for CV System with Airline Kit and Accessories
CV-H5-DSHP	Desolder Hand-piece only
CV-UK5	Upgrade Kit, Desolder Hand-piece and Work-stand

High Thermal Demand Hand-piece

Metcal's High Thermal Demand hand-pieces and tips transform the CV-5200 Soldering System into a powerhouse. Metcal's HTD solution provides a boost in performance by more effectively delivering thermal energy to the most demanding loads.

- Compatible with HCV cartridges and available in 700, 800, and 900 series temperatures
- Not recommended for use with CV-500 system

See page 20-21 for popular cartridges

Part Number	Description
CV-H6-HTD	High Thermal Demand Hand-piece for CV System
CV-UK6	Upgrade Kit, High Thermal Demand Hand-piece and Work-stand

Connection Validation™ (CV)

Solder Wire Feeder Hand-pieces

Metcal's Solder Wire Feeder System adds control and convenience to your soldering process. The digital controls, high performance, and its ability to handle multiple solder wire diameters provide repeatability and functionality to your process. Two hand-pieces available, for standard CV applications and high thermal demand applications.

Key Features & Benefits:

- Improved temperature control: Metcal's SmartHeat® inside means lower risk of overshooting delicate components
- Very fast heat-up speed means you can get to your next task even faster
- Compatible with solder diameters from 0.3 mm to 1.27 mm
- Compatible with CVC and SMC series cartridges for standard applications and HCV series cartridges for high thermal demand applications. Available in 700, 800, and 900 series temperatures.

*CV-H7-HTD Not Recommend for use with the CV-500 Connection Validation™ System.

Part Number	Description
CV-H7-AV	Solder Wire Feeder Advanced Hand-piece for CV System
CV-UK7	Upgrade Kit, Solder Wire Feeder Advanced Hand-piece, Work-stand and Solder Wire Feeder Unit
CV-H7-HTD	High Thermal Demand Hand-piece for CV Solder Wire Feeder System
CV-UK7-HTD	Upgrade Kit, Solder Wire Feeder HTD Hand-piece, Work-stand and Solder Wire Feeder Unit

CV Monitoring Software

Improve your solder process traceability and create a performance baseline using CV's intelligent cartridges plus CV-5000 Monitor software. Using our Connection Validation™ patented technology, CV Monitor software allows you to capture solder process information over time for each joint when attached to the communication port.

Now that you have a baseline, you can quickly analyze your soldering performance, identify changes in your solder conditions, and make changes to your process. Download the free CV-5000 Monitor software and start monitoring your process.

You'll get the following information:

- ❍ Power demand
- ❍ Tip temperature
- ❍ Solder time
- ❍ Intermetallic Compound Formation (IMC Formation)*

Download the free software to get started.

www. Metcal.com

The MX-5200 Soldering, Desoldering & Rework

Series has increased power and process control, now with dual-simultaneous ports.

For two users or single user with dual applications. The MX-5200 can be operated with two hand-pieces dynami-cally sharing the 80 watts out-put power based on demand adding even more application flexibility and speed.

Fast time-to-recovery.
Delivers increased production rates and throughput no mat-ter the application. The chal-lenges of high mass compo-nents, multilayered boards and lead-free solders are seam-lessly tackled by the MX-5200 super-charged power supply.

SmartHeat® process control. The technology built-in every Metcal System means that soldering and rework are always performed at safe, controlled temperatures. Metcal users know that moderate fixed temperatures, where power is varied, provides the best assurance for a well controlled soldering rework process.

TipSaver™ Workstand improves tip life as well as operator ergonomics. This "Auto-Sleep" Workstand reduces the power to the hand-piece when it is placed in the Metcal TipSaver™ Workstand. Reduction in power will substantially decrease tip oxidation, a major cause of reduced tip life.

Ergonomic Hand-pieces. The aluminium hand-pieces for soldering and rework provides a cooler, lighter weight and more comfortable feel for the operator. And, the Metcal UltraFine™ Hand-piece features a new generation of extremely fine diameter cartridges in a slim profiled handle. Both of these hand-pieces uniquely offer users a choice of three interchangeable grips.

ESD safe and features incoming AC ground monitoring circuitry. The AC (mains) ground monitor detects power line ground failure, immediately alerting the operator and shuting down the system. Only after the power line ground has been restored can the MX-5200 be restarted and soldering operations can be resumed.

Built-in power indication meter with digital display and bar graph that visually provides the operator with feedback on the status of the soldering operation. Whether using a large mass rework tip for QFPs or a fine-point soldering tip, the power indication meter is a valuable resource for making consistent, acceptable solder joints.

MX-5200 System Configuration

Part Number	Power Supply	Hand-pieces				Tip Saver™ Work-stands		
	MX-PS5200	MX-H1-AV*	MX-H2-UF*	MX-PTZ*	MX-DS1*	MX-W1AV*	MX-W4PT*	MX-W5DS*
MX-5210	●	●				●		
MX-5211	●	●●				●●		
MX-5220	●		●			●		
MX-5241	●	●		●		●	●	
MX-5250	●				●			●
MX-5251	●	●			●	●		●

*See hand-piece descriptions on page 13

Metcal's MX-500 Soldering and Rework System has been reimagined, adding features and a new look to a bench top icon.

The system utilizes SmartHeat® Technology, where each cartridge is equipped with a self-regulating heater which 'senses' its own temperature and closely maintains its pre-set idle temperature for the life of the heater-tip. The tip temperature is determined by the inherent metallurgical properties of the heater; no external adjustment or equipment is required. The MX-500 retains switchable dual port, 40W operation while introducing numerous new features in a new housing.

MX-500 System Configuration

Part Number	Power Supply	Hand-pieces				Tip Saver Work-stands				
	MX-500P	MX-RM3E*	MX-H1-AV*	MX-H2-UF*	MX-PTZ*	MX-DS1*	WS1*	MX-W1AV*	MX-W4PT*	MX-W5DS*
MX-500S	•	•					•			
MX-500AV	•		•					•		
MX-500UF	•			•				•		
MX-500SPT	•				•				•	
MX-500DS	•					•				•

*See hand-piece descriptions on page 13

Technical Specifications

	MX-PS5200 Power Supply	MX-500P Power Supply
Input Line Voltage	100 - 240 VAC, grounded circuit, 50/60 Hz	
Rated Power Consumption	125 W	
Output Power	80 W max.*	40 W max.*
Output Frequency	13.56 MHz	
Heating Method	Induction, SmartHeat®	
Display	LCD, 2.5 x .6 inch (64.5 x 14 mm)	
Connections	2 connectors, single mode 80 Watt. Dual mode power is shared dynamically	2 connectors, single mode 40 Watt
Power Supply Dim. W x D x H	4.7 x 5.1 x 9.2 inch (121 x 130 x 235 mm)	4.7 x 4.7 x 8.7 inch (121 x 121 x 220 mm)
Power Supply Weight	7.4 lbs (3.35 kg)	5.8 lbs (2.65 kg)
Certification / Marking	cTUVus, CE	
Tip-to- Ground Potential	< 2 mV	
Tip-to-Ground Resistance	< 2 Ohm	
Idle Temperature Stability	1.1 °C (2 °F) in still air	
Tip Temperature Accuracy	Meets or exceeds IPC J-STD-001 Standard	
Surface Resistivity	10^5 - 10^9 Ohm, ESD safe	
Ground Detection	Permanent	
Warranty	5 Years	4 Years

*RF SmartHeat® Technology provides greater power.

Key Features & Benefits

- A built in Net Power Meter which will display a graphical and numerical representation of the power applied to the cartridge.
- User Programmable PowerSave Mode: the time to enter PowerSave Mode is adjustable from 10 to 120 minutes.
- Ground Fault Interrupt: AC ground monitor detects power line ground failures and immediately alerts the operator and shuts down the system.
- Universal Power Supply: automatically senses the input line voltage and adjusts accordingly, which allows for worldwide operation without adaptors or a change in performance.
- Full compatibility with existing and previous MX upgrade kits, tip-cartridges, hand-pieces and accessories.

MX Series

Hand-pieces and Upgrade Kits

Metcal offers a variety of hand-pieces and upgrade kits for the MX Series Soldering and Rework Systems.

Advanced Hand-piece

The Advanced MX-Hand-piece is highly effective for most soldering applications including lead-free and thermally sensitive components requiring low operating temperatures.

- For use with STTC and SMTC Cartridges.

See pages 17-19, 22-23 for cartridge list

Part Number	Description
MX-H1-AV	Advanced Hand-piece for MX Systems
MX-W1AV	Tip Saver Work-stand for Advanced Hand-piece
MX-UK1	Upgrade Kit, includes Advanced hand-piece and Work-stand

UltraFine Hand-piece

The Ultrafine hand-piece is a specialty tool for soldering and rework of very small components.

- For use with UFTC Cartridges.

See page 24 for cartridge list

Part Number	Description
MX-H2-UF	UltraFine Hand-piece for MX Systems
MX-W1AV	Tip Saver Work-stand for Ultrafine Hand-piece
MX-UK2	Upgrade Kit, includes Ultrafine hand-piece and Work-stand

MX-RM3E Hand-piece

The MX-RM3E is an economical hand-piece for use on most common soldering applications.

- For use with STTC and SMTC Cartridges.

See page 17-19, 22-23 for cartridge list

Part Number	Description
MX-RM3E	Economical Hand-piece for MX Systems
WS1	Tip Saver Work-stand for MX-RM3E Hand-piece

Precision Tweezer Hand-piece

Transform the MX Soldering System into a rework system for applications requiring the removal of surface mount components.

- For use with PTTC Cartridges.

See page 26 for cartridge list

Part Number	Description
MX-PTZ	Precision Tweezer Hand-piece for MX Systems
MX-W4PT	Tip Saver Work-stand for Precision Tweezer Hand-piece
MX-UK4	Upgrade Kit, includes Precision Tweezer hand-piece and Work-stand

Desolder Hand-piece

The desolder hand-piece is great for mixed-technology boards and for through-hole desoldering

- For use with STDC Cartridges.

See page 27 for popular cartridges

Part Number	Description
MX-DS1	Desolder Hand-piece for MX Systems
MX-W5DS	Tip Saver Work-stand for Desolder Hand-piece
MX-UK5	Upgrade Kit, includes Desolder hand-piece and Work-stand

High Thermal Demand Hand-piece

The High Thermal Demand (HTD) hand-piece transforms your MX-5200 Series power supply into a powerhouse for applications with high thermal loads such as dense boards, without damaging sensitive components.

- For use with HTC Cartridges.

See page 20-21 for popular cartridges

Part Number	Description
MX-H6-HTD	High Thermal Demand Hand-piece for MX Systems
MX-W1AV	Tip Saver Work-stand for HTD Hand-piece
MX-UK6	Upgrade Kit, includes HTD hand-piece and Work-stand

Speed. Control. Convenience.

Solder Wire Feeder System

Speed up your soldering process & increase your line efficiency.

Metcal's Solder Wire Feeder System adds control and convenience to your soldering process. The digital controls, high performance, and its ability to handle multiple solder wire diameters provide repeatability and functionality to your process. The Solder Wire Feeder pairs with Metcal's SmartHeat® MX-5200 or MX-500 Soldering and Rework Systems.

Part Number	Description
MX-5270	MX-5200 Series Solder Wire Feeder System
MX-570	MX-500 Solder Wire Feeder System
Included in both systems	MX Power Supply, Solder Feeder Assembly, Solder Feeder Hand-piece, Feeder Tube Assembly, Teflon Nozzle, Foot-switch and Work-stand
MX-UK7	Solder Wire Feeder Upgrade Kit for MX Series
Includes	Solder Feeder Assembly, Solder Feeder Hand-piece, Feeder Tube Assembly, Teflon Nozzle, Footswitch and Work-stand

See page 16 for additional accessories. Specification information on website.

Key Features & Benefits

- **Digital Controls with multiple Modes of Operation:** Forward Feed, Retraction, Delay, and Speed are programmable parameters in either the automatic, forward, or the backward mode of operation
- **Large LCD Display:** Displays program parameters and a cycle counter with the selectable unit of measure,millimeters or inches
- **Internal Program Storage:** Stores thirty (30) programs internally, allowing the operator to select the right program for the right application
- **Password Protection:** Prevents unintended changes to stored programs
- **Multiple Solder Diameters:** Compatible with solder diameters 0.3 mm to 1.27 mm
- **Solder Feed Blades:** Reduces the tendency for solder balls to form at point of use
- **Solder Spool Lock:** Secures the solder spool to the unit
- **Universal Power Supply:** Automatically senses the input line voltage and adjusts accordingly, which allows for worldwide operation without adaptors or a change in

Solder Tip Cleaner

Solder tips represent a significant part of the cost of ownership for a solder station.

Oxidation on the tip degrades performance by creating a barrier that decreases the thermal transfer of the heat to the solder joint. This barrier slows performance and if not corrected will damage the tip. Proper tip care is essential to maximize the life of the tip.

Metcal's new Solder Tip Cleaner removes oxidation and extends the life of the solder tip. By placing the tip into the opening, the tip cleaner senses the tip and automatically activates saving the operator time. A splashguard prevents debris from escaping the collection area.

Part Number	Description
AC-STC	Solder Tip Cleaner
AC-STC-BBRUSH	Replacement Brushes (pair)
AC-STC-GUARD	Rubber Splash Guard
AC-STC-TRAY	Replacement Tray

Specification information on website.

Key Features & Benefits

- **Contactless Activation**
- **Compact Footprint**: Surface area on the bench top is at a premium. This unit doesn't disappoint, taking only minimal footprint on your benchtop.
- **Replaceable Brush System**: Allows for easy replacement of the solder brush providing for a long useful life for the system.
- **Universal Power Supply**: Simple plug and play
- **ESD Safe**
- **Quiet Operation**

CV-5200/500 & MX-5200/500 Series

Soldering, Desoldering & Rework Systems

A range of hand-pieces & accessories to meet your every application need.

Metcal offers a complete line of hand-pieces (standard, advanced, ultrafine, tweezer, desoldering, and high thermal demand), workstands, cradles, wire feeders, brass pads & sponges, and upgrade kits for CV and MX systems. Whether you solder tiny components under a microscope, or desolder high thermal mass PBCAs, these are the products that turn your MX or CV system into a versatile workhorse.

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CV Hand-Pieces and Accessories		
CV-H1-AV		Advanced Hand-Piece for CV System with LED
CV-H2-UF		Ultrafine Hand-Piece for CV System
CV-H4-PTZ		Precision Tweezer Hand-Piece for CV System
CV-H4-UFT		Ultrafine Tweezer Hand-Piece for CV System
CV-H5-DS	3	Desoldering Hand-Piece for CV System with Cord and Airline Kit
CV-H5-DSHP		Desolder Hand-Piece Only
CV-RM8E		Desoldering Hand-Piece Cord for CV-H5-DS
CV-H6-HTD		High Thermal Demand Hand-Piece for CV System
CV-H7-AV		Advanced Solder Wire Feeder Hand-Piece for CV System
CV-H7-HTD		High Thermal Demand Solder Wire Feeder Hand-Piece for CV System
CV Workstands		
CV-W1AV		Standard Workstand for Advanced, Ultrafine and High Thermal Demand Hand-Pieces
CV-W4PT		Workstand for Ultrafine Tweezer Hand-Piece
CV-W5DS		Workstand for Desoldering Hand-Piece
CV Upgrade Kits		
CV-UK1	2	Advanced Hand-Piece and Tip Saver Workstand for CV System
CV-UK2		Ultrafine Hand-Piece and Tip Saver Workstand for CV System
CV-UK4		Precision Tweezer Hand-Piece and Tip Saver Workstand for CV System
CV-UK4-UFT	4	Ultrafine Tweezer Hand-Piece and Tip Saver Workstand for CV System
CV-UK5		Desolder Hand-Piece and Tip Saver Workstand for CV System
CV-UK6	1	High Thermal Demand Hand-Piece and Tip Saver Workstand for CV System
CV-UK7		Solder Wire Feeder Hand-Piece and Tip Saver Workstand for CV System
CV-UK7-HTD	5	High Thermal Demand Solder Wire Feeder HP and Tip Saver Workstand for CV System

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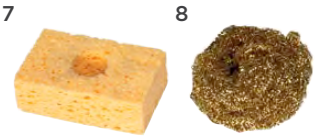
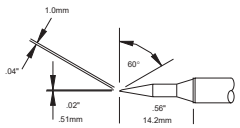
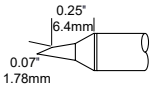
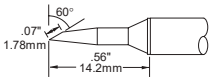
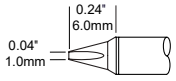
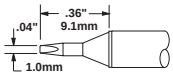
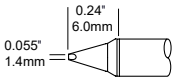
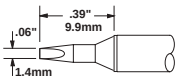
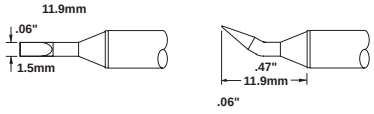
CV and MX Accessories for Desoldering Hand-Pieces		
CV System	MX System	Description
CV-DAH4	MX-DAH4	ESD Air Hose for desoldering hand-piece
CV-DAR1	MX-DAR1	Air Regulator and Filter
CV-DCF1	MX-DCF1	Chamber Liners (Pack of 15) and Filters (Pack of 6)
CV-DCF1F	MX-DCF1F	Filters (Pack of 20)
CV-DCF1L	MX-DCF1L	Chamber Liners (Pack of 40)
CV-DLA	MX-DLA	Desolder Gun Latch Adjustment (Pack of 10)
CV-DMK1	MX-DMK1	Desolder Maintenance Kit
CV-DSB	MX-DSB	Swivel Connector
CV-DSL1	MX-DSL1	Seal Chamber
CV-DSL2	MX-DSL2	Seal Cartridge
CV-DVC1	MX-DVC1	Venturi Cartridge
AC-TC		Desolder Tip Cleaner
AC-CB1-P		Desolder Chamber Cleaning Brush (Pack of 25)
AC-CB2-P		Tube Cleaning Brush (Pack of 6)

Part Number		Description
MX Hand-Pieces and Accessories		
MX-H1-AV	1	Advanced Hand-Piece for MX System
MX-H2-UF	2	Ultrafine Hand-Piece for MX System
MX-PTZ		Precision Tweezer Hand-Piece for MX System
MX-DS1	13	Desoldering Hand-Piece for MX System
MX-H6-HTD		High Thermal Demand Hand-Piece for MX System
MX-H7-SF		Advanced Solder Wire Feeder Hand-Piece for MX System
MX-HPDC		Dual Cartridge Hand-Piece for MX System
MX-RM3E		Standard Soldering/Rework Hand-Piece
MX-RM5E		Standard Robotic Cable, 1-Piece, 183 mm
MX-RM6E		Soldering/Rework Hand-Piece for Long Reach Cartridge Access
MX-RM8E		Desoldering Hand-Piece Cord for MX-DS1
Sleeves and Grips for MX Advanced and Ultrafine Hand-Pieces		
MX-H1-BSR-5		Sleeve, Black, Adv HP Grip, Ring Pattern (Qty=5)
MX-H1-BSS-5		Sleeve, Black, Adv HP Grip, Scallop Pattern (Qty=5)
MX-H1GKG	11	Grip, Advanced Handpiece Knob Pattern, Green
MX-H1GR	12	Grip, Advanced Handpiece, Ring Pattern
MX-H1GS	10	Grip, Advanced Handpiece, Scallop Pattern
MX-H1-GSK-5		Rubber Grip, Knob Green, MX-5000
MX-H2-BSR-5		Sleeve, Black, UF HP Grip, Ring Pattern (Qty=5)
MX-H2-BSS-5		Sleeve, Black, UF HP Grip, Scallop Pattern (Qty=5)
MX-H2GKG		Grip, Ultrafine Handpiece Knob Pattern, Green
MX-H2GR		Grip, Ultrafine Handpiece Ring Pattern
MX-H2GRS		Grip, UF Handpiece, Ring Black, Extended Reach
MX-H2GS		Grip, Ultrafine Handpiece Scallop Pattern
MX-H2-GSK-5		Rubber Grip, UF HP Grip, Knob Green, MX-H2-UF
MX Workstands and Accessories		
MX-W1AV	3	Workstand for Advanced, Ultrafine and High Thermal Demand Hand-Pieces
MX-W1CR		Cradle for Advanced Workstand
MX-W4PT	4	Workstand for Tweezer Hand-Piece
MX-W4CR		Cradle for Tweezer Workstand
MX-W5DS		Workstand for Desolder Hand-Piece
MX-W5CR		Cradle for Desolder Workstand
MX-WHPDC		Workstand for Dual Cartridge Hand-Piece
WS1		Workstand for MX-RM3E Hand-Piece, Sleeper
AC-Y10	7	Yellow Sponge, Pack of 10
AC-YS3-P		Yellow Sponge, Pack of 50
AC-BP	8	Brass Pad, 18 grams, Pack of 10
AC-BRUSH-P		Soft Brass Brush, Pack of 6
MX-CP1	9	Cartridge Removal Pad
AC-CK2		Green Lead Free ID Ring for STTC Cartridges (Pack of 50)
MX Upgrade Kits		
MX-UK1	14	Advanced Hand-Piece for MX and Workstand
MX-UK2		Ulfrafine Hand-Piece for MX and Workstand
MX-UK3		Dual Cartridge Hand-Piece for MX and Workstand
MX-UK4		Precision Tweezer Hand-Piece for MX and Workstand
MX-UK5		Desolder Hand-Piece for MX with Cord, Air line Kit and Workstand
MX-UK6	6	High Thermal Demand Hand-Piece and Workstand
MX-UK7	5	Solder Wire Feeder for MX and Workstand
CV and MX Accessories for Solder Wire Feeder System		
USF-1000		Solder Wire Feeder, Main Unit Only
USF-FTA-12		Feeder Tube Assembly, 0.56-0.71 mm Wire Dia.
USF-FTA-17		Feeder Tube Assembly, 0.79-1.27 mm Wire Dia.
USF-GTA-06		Guide Tub and Teflon Nozzle, 0.6 mm (Pack of 10)
USF-GTA-12		Guide Tube and Teflon Nozzle, 1.2 mm (Pack of 10)
USF-GTA-17		Guide Tube and Teflon Nozzle, 1.7 mm (Pack of 10)



All upgrade kits include a hand-piece and a workstand.

Temperature Guide & Tip Specifications_CV & MX-Series			
Max Temperature	**CV-Series**	**MX-Series**	**Application**
575 °F/302 °C	**CVC-5xxx**	**STTC-5xx**	Temperature Sensitive
675 °F/ 357 °C	**CVC-6xxx**	**STTC-0xx**	
775 °F/413 °C	**CVC-7xxx**	**STTC-1xx**	Most Standard
875 °F/468 °C	**CVC-8xxx**	**STTC-8xxV1**	Ceramic and High Thermal Demand
950 °F/510 °C	**CVC-9xxx**	**STTC-8xx**	
Compatible with:	Systems: MX-500, MX-5000, MX-5200, CV-500, CV-5200 Hand-pieces: MX-RM3E, MX-RM6E, MX-H1AV, MX-H7-SF, CV-H1-AV, CV-H7-AV	Systems: MX-500, MX-5000, MX-5200 Hand-pieces: MX-RM3E, MX-RM6E, MX-H1-AV, MX-H7-SF	
Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge (up to 15 °C lower.)			

Bevel Cartridges			
	**CVC-5BV6005A**	**STTC-546**	**Long reach, (Bevel/L) 60° x 1 mm, (ø x L) 0.50 x 14.2 mm**
	CVC-6BV6005A	**STTC-046**	
	CVC-7BV6005A	**STTC-146**	
	CVC-8BV6005A		
	CVC-9BV6005A	**STTC-846**	
	CVC-5BV6018P		(Bevel/L) 60° x 1.78 mm, optimized geometry for best thermal performance (ø x L) 0.89 x 6.6 mm
	CVC-6BV6018P		
	CVC-7BV6018P	STTC-147P	
	CVC-8BV6018P		
	CVC-9BV6018P	STTC-847P	
	**CVC-5BV6018R**	**STTC-547**	**Long reach, (Bevel/L) 60° x 1.78 mm, (ø x L) 0.89 x 14.2 mm**
	CVC-6BV6018R	**STTC-047**	
	CVC-7BV6018R	**STTC-147**	
	CVC-8BV6018R		
	CVC-9BV6018R	**STTC-847**	
Chisel Cartridges			
	CVC-5CH0010P		**Optimized geometry for best thermal performance, (W x L) 1.0 x 6.0 mm**
	CVC-6CH0010P	STTC-025P	
	CVC-7CH0010P	STTC-125P	
	CVC-8CH0010P	STTC-825PV1	
	CVC-9CH0010P	STTC-825P	
	**CVC-5CH0010S**	**STTC-525**	**(W x L) 1.0 x 9.1 mm**
	CVC-6CH0010S	**STTC-025**	
	CVC-7CH0010S	**STTC-125**	
	CVC-8CH0010S	**STTC-825V1**	
	CVC-9CH0010S	**STTC-825**	
	CVC-5CH0014P		**Optimized geometry for best thermal performance, (W x L) 1.4 x 6.0 mm**
	CVC-6CH0014P		
	CVC-7CH0014P	STTC-138P	
	CVC-8CH0014P	STTC-838PV1	
	CVC-9CH0014P	STTC-838P	
	**CVC-5CH0014S**	**STTC-538**	**(W x L) 1.4 x 9.9 mm**
	CVC-6CH0014S	**STTC-038**	
	CVC-7CH0014S	**STTC-138**	
	CVC-8CH0014S	**STTC-838V1**	
	CVC-9CH0014S	**STTC-838**	
	CVC-5CH0015R	STTC-599	**Bent 30°, for work under a microscope, (W x L) 1.5 x 11.9 mm**
	CVC-6CH0015R	STTC-099	
	CVC-7CH0015R	STTC-199	
	CVC-8CH0015R		
	CVC-9CH0015R	STTC-899	

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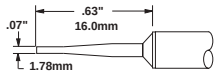
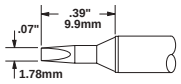
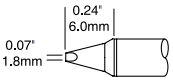
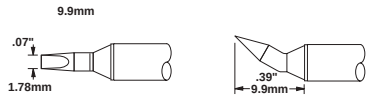
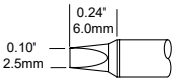
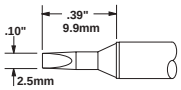
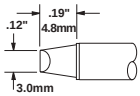
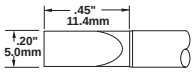
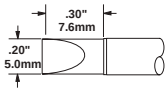
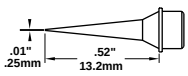
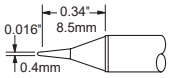
Chisel Cartridges			
	CVC-5CH0018A	STTC-542	Long reach, flat, (W x L) 1.78 x 16mm
	CVC-6CH0018A	STTC-042	
	CVC-7CH0018A	STTC-142	
	CVC-8CH0018A		
	CVC-9CH0018A	STTC-842	
	CVC-5CH0018S	STTC-537	(W x L) 1.78 x 9.9 mm
	CVC-6CH0018S	STTC-037	
	CVC-7CH0018S	STTC-137	
	CVC-8CH0018S	STTC-837V1	
	CVC-9CH0018S	STTC-837	
	CVC-5CH0018P		Optimized geometry for best thermal performance, (W x L) 1.8 x 6.0 mm
	CVC-6CH0018P		
	CVC-7CH0018P	STTC-137P	
	CVC-8CH0018P	STTC-837PV1	
	CVC-9CH0018P	STTC-837P	
	CVC-5CH0018R	STTC-598	Bend 30°, for work under a microscope, (W x L) 1.8 x 10.0 mm
	CVC-6CH0018R	STTC-098	
	CVC-7CH0018R	STTC-198	
	CVC-8CH0018R		
	CVC-9CH0018R	STTC-898	
	CVC-5CH0025P		Optimized geometry for best thermal performance, (W x L) 2.5 x 6.0 mm
	CVC-6CH0025P		
	CVC-7CH0025P	STTC-136P	
	CVC-8CH0025P	STTC-836PV1	
	CVC-9CH0025P	STTC-836P	
	CVC-5CH0025S	STTC-536	(W x L) 2.5 x 9.9 mm
	CVC-6CH0025S	STTC-036	
	CVC-7CH0025S	STTC-136	
	CVC-8CH0025S	STTC-836V1	
	CVC-9CH0025S	STTC-836	
	CVC-5CH0030S	STTC-513	Optimized geometry for best thermal performance (W x L) 3.0 x 4.8 mm
	CVC-6CH0030S	STTC-013	
	CVC-7CH0030S	STTC-113	
	CVC-8CH0030S		
	CVC-9CH0030S	STTC-813	
	CVC-5CH0050A	STTC-565	Long reach, (W x L) 5.0 x 11.4 mm
	CVC-6CH0050A	STTC-065	
	CVC-7CH0050A	STTC-165	
	CVC-8CH0050A		
	CVC-9CH0050A	STTC-865	
	CVC-5CH0050S	STTC-517	(W x L) 5.0 x 7.6 mm
	CVC-6CH0050S	STTC-017	
	CVC-7CH0050S	STTC-117	
	CVC-8CH0050S	STTC-817V1	
	CVC-9CH0050S	STTC-817	
Conical Cartridges			
	CVC-5CN0003A	STTC-590	Fine, long reach, for work in tight spaces, (ø x L) 0.25 x 13.2 mm
	CVC-6CN0003A	STTC-090	
	CVC-7CN0003A	STTC-190	
	CVC-8CN0003A		
	CVC-9CN0003A	STTC-890	
	CVC-5CN0004P		Sharp, optimized geometry for best thermal performance, (ø x L) 0.4 x 8.5 mm
	CVC-6CN0004P		
	CVC-7CN0004P	STTC-145P	
	CVC-8CN0004P		
	CVC-9CN0004P	STTC-845P	

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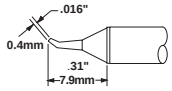
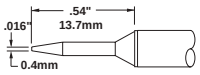
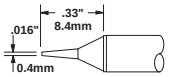
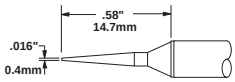
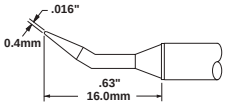
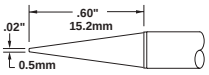
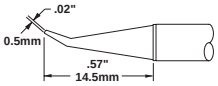
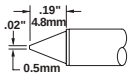
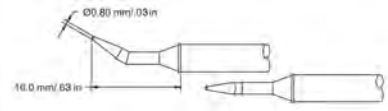
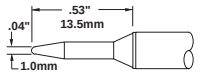
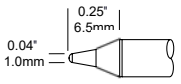
Conical Cartridges			
	CVC-5CN0004R	STTC-526	Sharp, Bent 30°, for work under a microscope, (ø x L) 0.4 x 7.9 mm
	CVC-6CN0004R	STTC-026	
	CVC-7CN0004R	STTC-126	
	CVC-8CN0004R	STTC-826V1	
	CVC-9CN0004R	STTC-826	
	CVC-5CN1304A	STTC-506	Sharp, long reach, (ø x L) 0.4 x 13.7 mm
	CVC-6CN1304A	STTC-006	
	CVC-7CN1304A	STTC-106	
	CVC-8CN1304A		
	CVC-9CN1304A	STTC-806	
	CVC-5CN1404S	STTC-522	Sharp, (ø x L) 0.4 x 8.4 mm
	CVC-6CN1404S	STTC-022	
	CVC-7CN1404S	STTC-122	
	CVC-8CN1404S		
	CVC-9CN1404S	STTC-822	
	CVC-5CN1504A	STTC-545	Sharp, long Reach, (ø x L) 0.4 x 14.7 mm
	CVC-6CN1504A	STTC-045	
	CVC-7CN1504A	STTC-145	
	CVC-8CN1504A		
	CVC-9CN1504A	STTC-845	
	CVC-5CN1604R	N/A	Sharp, long reach, bent 30°, for work under a microscope, (ø x L) 0.8 x 15 mm
	CVC-6CN1604R		
	CVC-7CN1604R		
	CVC-8CN1604R		
	CVC-9CN1604R		
	CVC-5CN0005A	STTC-543	Sharp, long reach, (ø x L) 0.5 x 15.2 mm
	CVC-6CN0005A	STTC-043	
	CVC-7CN0005A	STTC-143	
	CVC-8CN0005A		
	CVC-9CN0005A	STTC-843	
	CVC-5CN0005R	STTC-544	Sharp, long reach, bent 30°, for work under a microscope, (ø x L) 0.5 x 14.5 mm
	CVC-6CN0005R	STTC-044	
	CVC-7CN0005R	STTC-144	
	CVC-8CN0005R		
	CVC-9CN0005R	STTC-844	
	CVC-5CN4805S	STTC-516	Blunt, optimized geometry for best thermal performance, (ø x L) 0.5 x 4.8 mm
	CVC-6CN4805S	STTC-016	
	CVC-7CN4805S	STTC-116	
	CVC-8CN4805S		
	CVC-9CN4805S	STTC-816	
	CVC-5CN1608R	STTC-540	Sharp, long reach, bent 30°, for work under a microscope, (ø x L) 0.8 x 16 mm
	CVC-6CN1608R	STTC-040	
	CVC-7CN1608R	STTC-140	
	CVC-8CN1608R	STTC-840V1	
	CVC-9CN1608R	STTC-840	
	CVC-5CN0010A	STTC-501	Long reach, (ø x L) 1.0 x 13.5 mm
	CVC-6CN0010A	STTC-001	
	CVC-7CN0010A	STTC-101	
	CVC-8CN0010A		
	CVC-9CN0010A	STTC-801	
	CVC-5CN0010P		Optimized geometry for best thermal performance, (ø x L) 1.0 x 6.5 mm
	CVC-6CN0010P		
	CVC-7CN0010P	STTC-101P	
	CVC-8CN0010P		
	CVC-9CN0010P	STTC-801P	

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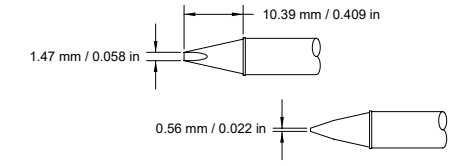
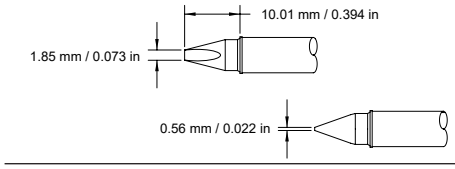
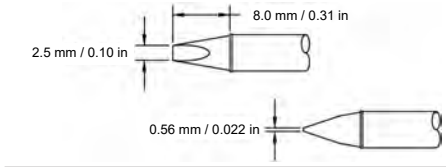
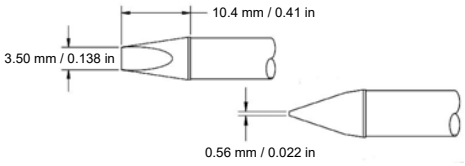
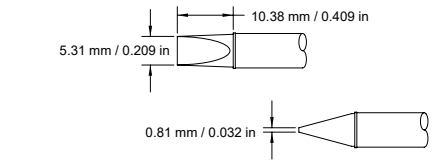
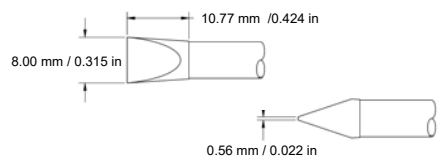
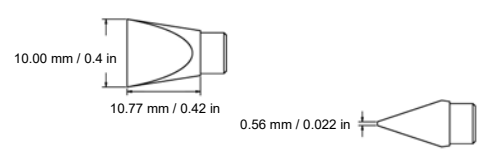
Temperature Guide & Tip Specifications_HCV/HTC			
Max Temperature	**CV-Series**	**MX-Series**	**Application**
775 °F/413 °C	**HCV-7**	**HTC-7**	Most Standard
875 °F/468 °C	**HCV-8**	**HTC-8**	Ceramic and High Thermal Demand
950 °F/510 °C	**HCV-9**	**HTC-9**	
Compatible with:	Systems: MX-5000, MX-5200, CV-5200 Handpieces: MX-H6-HTD, CV-H6-HTD, CV-H7-HTD	Systems: MX-5000, MX-5200 Handpieces: MX-H6-HTD	
Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge.			

High Thermal Demand - Chisels			
	HCV-7CH0015S HCV-8CH0015S HCV-9CH0015S	N/A	Chisel, (W x L) 1.47 x 10.4 mm
	HCV-7CH0018S HCV-8CH0018S HCV-9CH0018S	N/A	Chisel, (W x L) 1.85 x 10 mm
	HCV-7CH0025S HCV-8CH0025S HCV-9CH0025S	HTC-7CH0025S HTC-8CH0025S HTC-9CH0025S	Chisel, (W x L) 2.5 x 8 mm
	HCV-7CH0035S HCV-8CH0035S HCV-9CH0035S	N/A	Chisel, (W x L) 3.5 x 10.4 mm
	HCV-7CH0053S HCV-8CH0053S HCV-9CH0053S	HTC-7CH0053S HTC-8CH0053S HTC-9CH0053S	Chisel, (W x L) 5.3 x 8.3 mm
	HCV-7CH0080S HCV-8CH0080S HCV-9CH0080S	N/A	Chisel, (W x L) 8.0 x 10.7 mm
	HCV-7CH00100S HCV-8CH00100S HCV-9CH00100S	N/A	Chisel, (W x L) 10.0 x 10.8 mm

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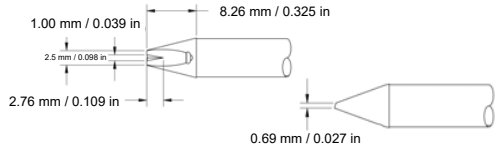
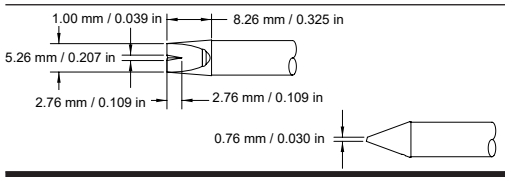
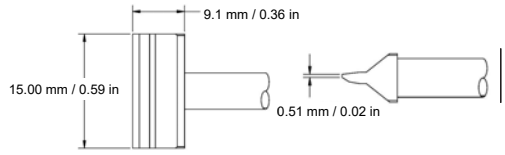
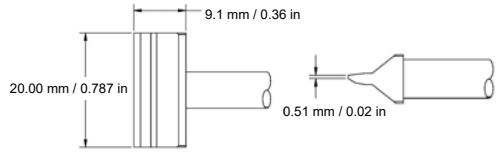
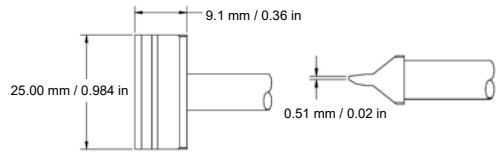
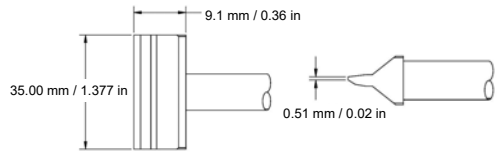
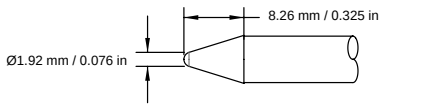
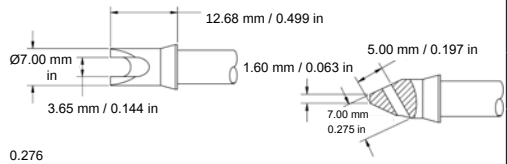
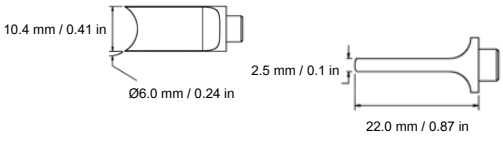
Hand Soldering, Desoldering, & Rework

HCV & HTC Cartridges

High Thermal Demand - V Groove Chisels			
	HCV-7VG0025S	N/A	V-Groove Chisel for pin soldering, Groove (W x L) 1.0 x 2.8 mm, (W x L) 2.5 x 8.3 mm
	HCV-8VG0025S		
	HCV-9VG0025S		
	HCV-7VG0053S	HTC-7VG0053S	V-Groove Chisel for pin soldering, Groove (W x L) 1.0 x 4 mm, (W x L) 5.3 x 8.3 mm
	HCV-8VG0053S	HTC-8VG0053S	
	HCV-9VG0053S	HTC-9VG0053S	
High Thermal Demand - Blades			
	HCV-7BL0015S	N/A	Blade, (W x L) 10.0 x 9.1 mm
	HCV-8BL0015S		
	HCV-9BL0015S		
	HCV-7BL0020S	N/A	Blade, (W x L) 20.0 x 9.1 mm
	HCV-8BL0020S		
	HCV-9BL0020S		
	HCV-7BL0025S	N/A	Blade, (W x L) 25.0 x 9.1 mm
	HCV-8BL0025S		
	HCV-9BL0025S		
	HCV-7BL0035S	N/A	Blade, (W x L) 35.0 x 9.1 mm
	HCV-8BL0035S		
	HCV-9BL0035S		
High Thermal Demand - Specials			
	HCV-7CN0020S	HTC-7CN0020S	Conical, (ø x L) 2 x 8.3 mm
	HCV-8CN0020S	HTC-8CN0020S	
	HCV-9CN0020S	HTC-9CN0020S	
	HCV-7SL0070S	N/A	Slot, 3.7 x 7.0 mm
	HCV-8SL0070S		
	HCV-9SL0070S		
	HCV-7BR0010S	N/A	Barrel, (W/ø x L) 10.4 x 22 mm, blade thickness 2.5 mm
	HCV-8BR0010S		
	HCV-9BR0010S		

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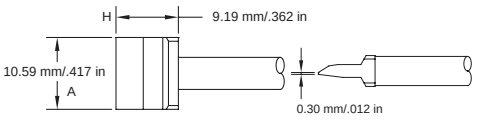
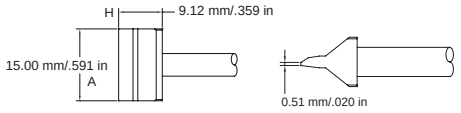
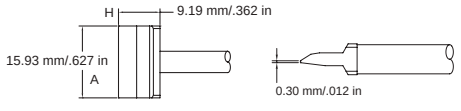
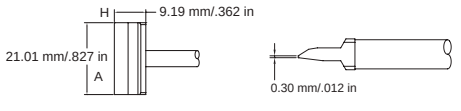
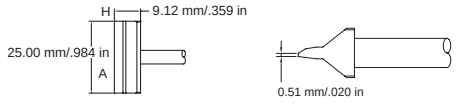
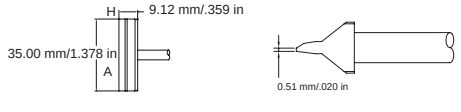
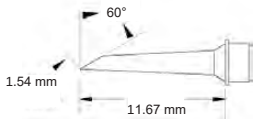
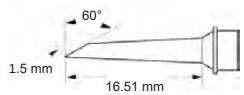
Temperature Guide & Tip Specifications_CV/MX-Series			
Max Temperature	**CV-Series**	**MX-Series**	**Application**
575 °F/302 °C	**SMC-5xxx**	**SMTC-5xx**	Temperature Sensitive
675 °F/ 357 °C	**SMC-6xxx**	**SMTC-0xx**	
775 °F/413 °C	**SMC-7xxx**	**SMTC-1xx**	Most Standard
875 °F/468 °C	**SMC-8xxx**	**SMTC-8xxV1**	Ceramic and High Thermal Demand
950 °F/510 °C	**SMC-9xxx**	**SMTC-8xx**	
Compatible with:	Systems: MX-500, MX-5000, MX-5200, CV-500, CV-5200 Handpieces: MX-RM3E, MX-RM6E, CV-H1-AV	Systems: MX-500, MX-5000, MX-5200 Handpieces: MX-RM3E, MX-H1-AV	
Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge (up to 15 °C lower.) These tips will provide data via the CV series power supplies, but due to the nature of their application the Connection Validation™ function is not required and therefore not enabled.			

Blades for Rework Applications			
	SMC-5BL0010S	SMTC-560	**Blade for Pad Clean-Up, A = 10.59 mm H = 9.19 mm**
	SMC-6BL0010S	SMTC-060	
	SMC-7BL0010S	SMTC-160	
	SMC-8BL0010S		
	SMC-9BL0010S	SMTC-860	
	SMC-5BL0015H		**Blade for Pad Clean-Up, A = 15 mm H = 9.12 mm**
	SMC-6BL0015H	SMTC-0BL150	
	SMC-7BL0015H	SMTC-1BL150	
	SMC-8BL0015H		
	SMC-9BL0015H	SMTC-8BL150	
	SMC-5BL0016S	SMTC-561	**Blade for Pad Clean-Up, A = 15.93 mm H = 9.19 mm**
	SMC-6BL0016S	SMTC-061	
	SMC-7BL0016S	SMTC-161	
	SMC-8BL0016S		
	SMC-9BL0016S	SMTC-861	
	SMC-5BL0022S	SMTC-562	**Blade for Pad Clean-Up, A = 21.01 mm H = 9.19 mm**
	SMC-6BL0022S	SMTC-062	
	SMC-7BL0022S	SMTC-162	
	SMC-8BL0022S		
	SMC-9BL0022S	SMTC-862	
	SMC-5BL0025H		**Blade for Pad Clean-Up, A = 25 mm H = 9.12 mm**
	SMC-6BL0025H	SMTC-0BL250	
	SMC-7BL0025H	SMTC-1BL250	
	SMC-8BL0025H		
	SMC-9BL0025H	SMTC-8BL250	
	SMC-5BL0035H		**Blade for Pad Clean-Up, A = 35 mm H = 9.12 mm**
	SMC-6BL0035H	SMTC-0BL350	
	SMC-7BL0035H	SMTC-1BL350	
	SMC-8BL0035H		
	SMC-9BL0035H	SMTC-8BL350	
Rework Hoof-Cartridges – For Drag Soldering SOICs/QFPs			
	SMC-5HF6009S	SMTC-5175	**Micro Hoof, (Bevel/L) 60° x 1.54 mm, (ø x L) 0.77 x 11.67 mm**
	SMC-6HF6009S	SMTC-0175	
	SMC-7HF6009S	SMTC-1175	
	SMC-8HF6009S		
	SMC-9HF6009S	SMTC-8175	
	SMC-5HF6011S	SMTC-5174	**Micro Hoof, (Bevel/L) 60° x 1.5 mm, long reach, (ø x L) 0.75 x 16.51 mm**
	SMC-6HF6011S	SMTC-0174	
	SMC-7HF6011S	SMTC-1174	
	SMC-8HF6011S		
	SMC-9HF6011S	SMTC-8174	

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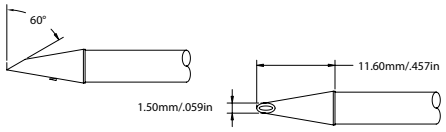
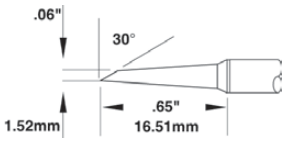
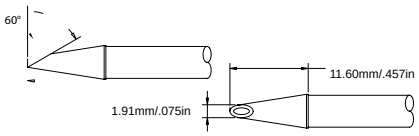
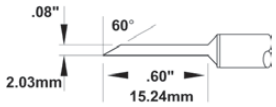
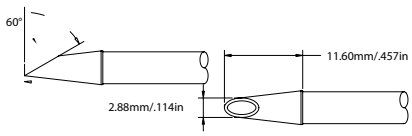
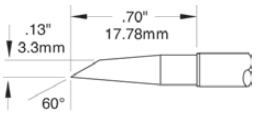
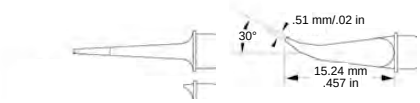
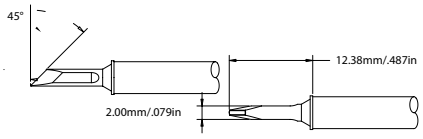
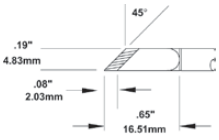
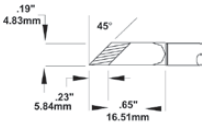
Rework Hoof-Cartridges – For Drag Soldering SOICs/QFPs			
	SMC-5HF0015V		Concave Hoof, (Bevel/L) 60° x 3 mm, (ø x L) 1.5 x 11.6 mm
	SMC-6HF0015V	SMTC-0184	
	SMC-7HF0015V	SMTC-1184	
	SMC-8HF0015V		
	SMC-9HF0015V		
	SMC-5HF6015S		Hoof, (Bevel/L) 30° x 1.76 mm, long reach, (ø x L) 1.52 x 16.51 mm
	SMC-6HF6015S	SMTC-0167	
	SMC-7HF6015S	SMTC-1167	
	SMC-8HF6015S		
	SMC-9HF6015S	SMTC-8167	
	SMC-5HF0020V		Concave Hoof, (Bevel/L) 60° x 3.82 mm (ø x L) 1.91 x 11.6 mm
	SMC-6HF0020V	SMTC-0185	
	SMC-7HF0020V	SMTC-1185	
	SMC-8HF0020V		
	SMC-9HF0020V		
	SMC-5HF6020S		Hoof, (Bevel/L) 60° x 4.06 mm, (ø x L) 2.03 x 15.24 mm
	SMC-6HF6020S	SMTC-0169	
	SMC-7HF6020S	SMTC-1169	
	SMC-8HF6020S		
	SMC-9HF6020S	SMTC-8169	
	SMC-5HF0030V		Concave Hoof, (Bevel/L) 60° x 6 mm, (ø x L) 3.0 x 11.6 mm
	SMC-6HF0030V	SMTC-0186	
	SMC-7HF0030V	SMTC-1186	
	SMC-8HF0030V		
	SMC-9HF0030V		
	SMC-5HF6033S	SMTC-5147	Hoof, (Bevel/L) 60° x 6.6 mm, long reach, (ø x L) 3.3 x 17.78 mm
	SMC-6HF6033S	SMTC-0147	
	SMC-7HF6033S	SMTC-1147	
	SMC-8HF6033S		
	SMC-9HF6033S	SMTC-8147	
Special Rework Cartridges			
	SMC-5HK0005S	SMTC-5172	Hook, for fine drag and point-to-point soldering on contacts from J-lead components, bend 30°, (ø x L) 0.51 x 15.24 mm
	SMC-6HK0005S	SMTC-0172	
	SMC-7HK0005S	SMTC-1172	
	SMC-8HK0005S		
	SMC-9HK0005S	SMTC-8172	
Rework Knife-Cartridges – For Multi-Lead Soldering of PLCCs/SOJs			
	SMC-5KN0025S		Knife, 45° angled, tinned area length 2.03 mm (W x L) 2.0 x 12.38 mm
	SMC-6KN0025S	SMTC-0165	
	SMC-7KN0025S	SMTC-1165	
	SMC-8KN0025S		
	SMC-9KN0025S		
	SMC-5KN0048S	SMTC-5161	Knife, 45° angled, tinned area length 2.03 mm (W x L) 4.83 x 16.51 mm
	SMC-6KN0048S	SMTC-0161	
	SMC-7KN0048S	SMTC-1161	
	SMC-8KN0048S		
	SMC-9KN0048S		
	SMC-5KN0048W	SMTC-5173	Knife, 45° angled, tinned area length 5.84 mm (W x L) 4.83 x 16.51 mm
	SMC-6KN0048W	SMTC-0173	
	SMC-7KN0048W	SMTC-1173	
	SMC-8KN0048W		
	SMC-9KN0048W	SMTC-8173	

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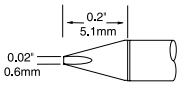
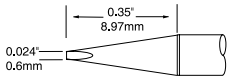
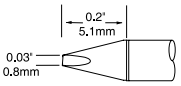
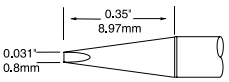
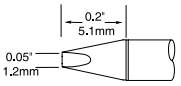
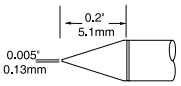
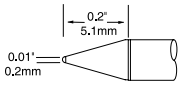
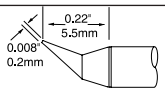
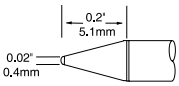
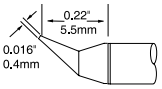
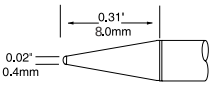
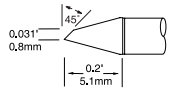
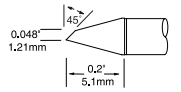
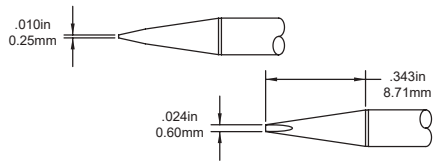
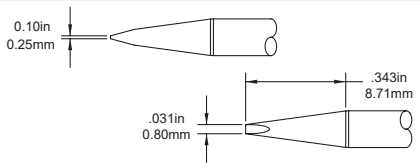
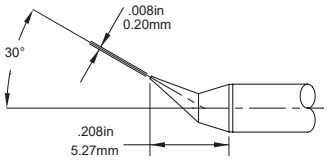
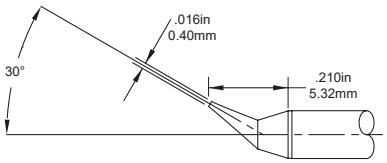
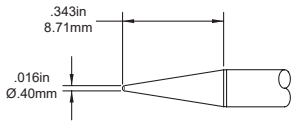
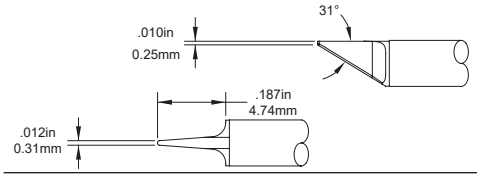
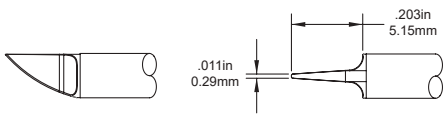
Temperature Guide & Tip Specifications_UFC-Series / UFTC-Series			
Max Temperature	**CV-Series**	**MX-Series**	**Application**
675 °F/357 °C	UFC-6	UFTC-6	Temperature Sensitive
775 °F/413 °C	UFC-7	UFTC-7	Most Standard
Compatible with:	Systems: CV-500, CV-5200 Handpieces: CV-H2-UF	Systems: MX-500, MX-5000, MX-5200 Handpieces: MX-H2-UF	
Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge (up to 15 °C lower.)			

Ultra-Fine Chisel Cartridge			
	UFC-6CH5106S	UFTC-6CH06	(W x L) 0.6 x 5.1 mm
	UFC-7CH5106S	UFTC-7CH06	
	UFC-6CH9006S	UFTC-6CHL06	Long reach, (W x L) 0.6 x 9 mm
	UFC-7CH9006S	UFTC-7CHL06	
	UFC-6CH5108S	UFTC-6CH08	(W x L) 0. 8 x 5.1 mm
	UFC-7CH5108S	UFTC-7CH08	
	UFC-6CH9008S	UFTC-6CHL08	Long reach, (W x L) 0.8 x 9 mm
	UFC-7CH9008S	UFTC-7CHL08	
	UFC-6CH5112S	UFTC-6CH12	(W x L) 1.2 x 5.1 mm
	UFC-7CH5112S	UFTC-7CH12	
Ultra-Fine Conical Cartridge			
	UFC-6CN5101S	UFTC-6CN01	(ø x L) 0.13 x 5.1 mm
	UFC-7CN5101S	UFTC-7CN01	
	UFC-6CN5102S	UFTC-6CN02	(ø x L) 0.2 x 5.1 mm
	UFC-7CN5102S	UFTC-7CN02	
	UFC-6CN5502R	UFTC-6CNB02	Bent 30°, for work under a micro-scope, (ø x L) 0.2 x 5.5 mm
	UFC-7CN5502R	UFTC-7CNB02	
	UFC-6CN5504S	UFTC-6CN04	0.4 x 5.1 mm
	UFC-7CN5504S	UFTC-7CN04	
	UFC-6CN5504R	UFTC-6CNB04	Bent 30°, for work under a micro-scope, 0.4 x 5.6 mm
	UFC-7CN5504R	UFTC-7CNB04	
	UFC-6CN8004S	UFTC-6CNL04	For work in tight spaces, long reach, 0.4 x 8.0 mm
	UFC-7CN8004S	UFTC-7CNL04	
Ultra-Fine Rework Hoof-Cartridges – For Drag Soldering SOICs/QFPs			
	UFC-6HF5108S	UFTC-6DRH408	Micro Hoof, (Bevel/L) 45° x 1.13 mm, (ø x L) 0.8 x 5.1 mm
	UFC-7HF5108S	UFTC-7DRH408	
	UFC-6HF5112S	UFTC-6DRH412	Micro Hoof, (Bevel/L) 45° x 1.71 mm, (ø x L) 1.21 x 5.1 mm
	UFC-7HF5112S	UFTC-7DRH412	

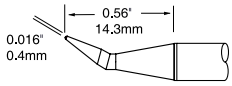
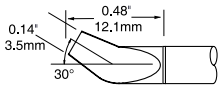
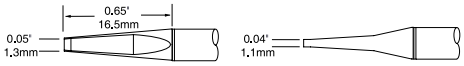
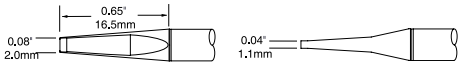
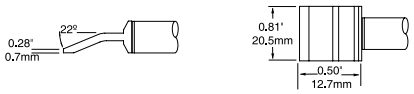
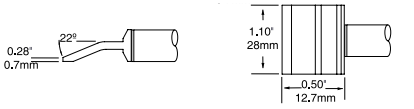
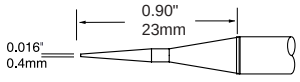
For our complete selection of tips & cartridges, visit www.metcal.com

Temperature Guide & Tip Specifications_UFT-Series		
Max Temperature	**CV-Series**	**Application**
675 °F/357 °C	**UFT-6**	Temperature Sensitive
775 °F/413 °C	**UFT-7**	Most Standard
Compatible with:	Systems: CV-500, CV5200 Handpieces: CV-H4UFT	
Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge. These tips will provide data via the CV power supplies, but due to the nature of their application the Connection Validation™ function is not required and therefore not enabled. All tweezer cartridges are sold per pair!		

Ultra-Fine Tweezer Cartridge - Chisel		
	UFT-6CH9006S UFT-7CH9006S	(W x L) 0.6 x 8.71 mm, sold per pair
	UFT-6CH9008S UFT-7CH9008S	(W x L) 0.8 x 8.71 mm, sold per pair
Ultra-Fine Tweezer Cartridge - Conical		
	UFT-6CN5502R UFT-7CN5502R	Conical, Bent, for work under a microscope, (ø x L) 0.2 x 5.27 mm, sold per pair
	UFT-6CN5504R UFT-7CN5504R	Conical, Bent, for work under a microscope, (ø x L) 0.4 x 5.3 mm, sold per pair
	UFT-6CN8004S UFT-7CN8004S	Conical (ø x L) 0.4 x 8.7 mm, sold per pair
Ultra-Fine Tweezer Cartridge - Power Wedge		
	UFT-6PW3150S UFT-7PW3150S	Power Wedge, two-way use, tip and long side, (ø x L) 0.31 x 4.74 mm, sold per pair
	UFT-6PW2954C UFT-7PW2954C	Power Wedge, two-way use, tip and long side, (ø x L) 0.29 x 5.15 mm, sold per pair

For our complete selection of tips & cartridges, visit www.metcal.com

Temperature Guide & Tip Specifications_PTC/PTTC-Series			
Max Temperature	**CV-Series**	**MX-Series**	**Application**
675 °F/357 °C	PTC-6	PTTC-6	Temperature Sensitive
775 °F/413 °C	PTC-7	PTTC-7	Most Standard
875 °F/468 °C	PTC-8		Ceramic and High Thermal Demand
950 °F/510 °C	PTC-9	PTTC-8	
Compatible with:	Systems: MX-500, MX-5000, MX-5200, CV-5200 Handpieces: MX-PTZ, CV-H4-PTZ	Systems: MX-500, MX-5000, MX-5200 Handpieces: MX-PTZ	
Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge (up to 15 °C lower.)			

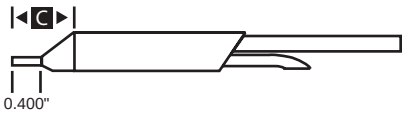
Bent			
	PTC-6CN1404A		Conical, bent 30°, (Ø x L) 0.4 mm x 14.3 mm (0.016" x 0.56"), sold per pair
	PTC-7CN1404A	PTTC-701B	
	PTC-8CN1404A		
	PTC-9CN1404A	PTTC-801B	
	PTC-6FB1235R	PTTC-608B	Bent 30°, blade, (W x L) 3.2 mm x 12.1 mm (0.14" x 0.48"), sold per pair
	PTC-7FB1235R	PTTC-708B	
	PTC-8FB1235R		
	PTC-9FB1235R	PTTC-808B	
Blade			
	PTC-6CH1713A	PTTC-602	Blade, (W x L), 1.27 mm x 16.55 mm (0.05" x 0.65"), sold per pair
	PTC-7CH1713A	PTTC-702	
	PTC-8CH1713A		
	PTC-9CH1713A	PTTC-802	
	PTC-6CH1720A	PTTC-603	Blade, (W x L) 2 mm x 16.5 mm (0.08" x 0.65"), sold per pair
	PTC-7CH1720A	PTTC-703	
	PTC-8CH1720A		
	PTC-9CH1720A	PTTC-803	
	PTC-6BL1306R	PTTC-604	Blade, (W x L) 6.35 mm x 12.7 mm (0.25" x 0.5"), sold per pair
	PTC-7BL1306R	PTTC-704	
	PTC-8BL1306R		
	PTC-9BL1306R	PTTC-804	
	PTC-6BL1316R	PTTC-605	Blade, (W x L) 15.75 mm x 12.7 mm (0.63" x 0.5"), sold per pair
	PTC-7BL1316R	PTTC-705	
	PTC-8BL1316R		
	PTC-9BL1316R	PTTC-805	
	PTC-6BL1321R	PTTC-606	Blade, (W x L) 20.6 mm x 12.7 mm (0.81" x 0.5"), sold per pair
	PTC-7BL1321R	PTTC-706	
	PTC-8BL1321R		
	PTC-9BL1321R	PTTC-806	
	PTC-6BL1328R	PTTC-607	Blade, (W x L) 28 mm x 12.7 mm (1.1" x 0.05"), sold per pair
	PTC-7BL1328R	PTTC-707	
	PTC-8BL1328R		
	PTC-9BL1328R	PTTC-807	
Conical			
	PTC-6CN2304A	PTTC-601	Conical, (Ø x L) 0.4 mm x 19 mm (0.016"x0.7"), sold per pair
	PTC-7CN2304A	PTTC-701	
	PTC-8CN2304A		
	PTC-9CN2304A	PTTC-801	

For our complete selection of tips & cartridges, visit www.metcal.com

Temperature Guide & Tip Specifications_DSC/STDC-Series			
Max Temperature	**CV-Series**	**MX-Series**	**Application**
675 °F/357 °C	**DSC-6**	**STDC-0**	Temperature Sensitive
775 °F/413 °C	**DSC-7**	**STDC-1 / 7xxL**	Most Standard
875 °F/468 °C	**DSC-8**		Ceramic and High Thermal Demand
950 °F/510 °C	**DSC-9**	**STDC-8**	
Compatible with:	Systems: MX-500, MX-5000, MX-5200, CV-500, CV-5200 Handpieces: MX-DS1, CV-H5-DS	Systems: MX-500, MX-5000, MX-5200 Handpieces: MX-DS1	DSC-xxxA / STDC-xxxL = Long Reach Desolder Cartridge to remove components form high density packed PCBs.
Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge (up to 15 °C lower.) These tips will provide data via the CV series power supplies, but due to the nature of their application the Connection Validation™ function is not required and therefore not enabled.			

Standard

	Standard		A	B	C
	DSC-6CN0006S	STDC-002	0.64 mm	1.40 mm	11.43 mm
	DSC-7CN0006S	STDC-102			
	DSC-8CN0006S				
	DSC-9CN0006S	STDC-802			
	DSC-6CN0008S	STDC-003	0.76 mm	1.68 mm	11.17 mm
	DSC-7CN0008S	STDC-103			
	DSC-8CN0008S				
	DSC-9CN0008S	STDC-803			
	DSC-6CN0010S	STDC-004	1.02 mm	1.78 mm	10.92 mm
	DSC-7CN0010S	STDC-104			
	DSC-8CN0010S				
	DSC-9CN0010S	STDC-804			
	DSC-6CN0013S	STDC-005	1.27 mm	2.03 mm	10.66 mm
	DSC-7CN0013S	STDC-105			
	DSC-8CN0013S				
	DSC-9CN0013S	STDC-805			
	DSC-6CN0015S	STDC-006	1.52 mm	2.29 mm	10.41 mm
	DSC-7CN0015S	STDC-106			
	DSC-8CN0015S				
	DSC-9CN0015S	STDC-806			
	DSC-6CN0024S	STDC-007	2.41 mm	3.18 mm	9.14 mm
	DSC-7CN0024S	STDC-107			
	DSC-8CN0024S				
	DSC-9CN0024S	STDC-807			
	Long Reach				
	DSC-6CN0008A		0.76 mm	1.68 mm	21.33 mm
	DSC-7CN0008A	STDC-703L			
	DSC-8CN0008A				
	DSC-9CN0008A	STDC-803L			
	DSC-6CN0010A		1.02 mm	1.79 mm	21.08 mm
	DSC-7CN0010A	STDC-704L			
	DSC-8CN0010A				
	DSC-9CN0010A	STDC-804L			
	DSC-6CN0013A		1.27 mm	2.03 mm	20.82 mm
	DSC-7CN0013A	STDC-705L			
	DSC-8CN0013A				
	DSC-9CN0013A	STDC-805L			



Long Reach

For our complete selection of tips & cartridges, visit www.metcal.com

The MFR-2200 Series

features dual output capability allowing users to select operation of one hand-piece or two hand-pieces simultaneously.

The MFR-2200 Systems below offer a choice of three hand-pieces, however two additional hand-pieces including the desoldering option are also available as upgrade kits **(see pages 30 & 33)**

The MFR-1100 Single Output Series **is designed to minimize your training investment, maximize application solutions and increase productivity.**

This Series is compact and versatile and can be used with either a soldering tip, cartridge or tweezers hand-piece. A shop air desoldering option is also available as an upgrade kit **(see pages 30 & 33)**.

System Specification	MFR-PS1100	MFR-PS2200
Input Line Voltage	100 - 240 VAC, grounded circuit, 50/60 Hz	
Rated Power Consumption	70 W max.	130 W max.
Output Power	Variable, 60 W max.*	Variable, 2 x 60 W max.*
Output Frequency	450 KHz	
Heating Method	Induction, SmartHeat®	
Connections	Single Port	Dual Port
Power Supply Dim. W x D x H	90 x 200 x 152.5 mm	120 x 200 x 152.5 mm
Power Supply Weight	2.3 kg (5.05 lb)	2.97 kg (6.55 lb)
Certification / Marking	cTUVus, CE	
Tip-to- Ground Potential	< 2 mV	
Tip-to-Ground Resistance	< 2 Ohm	
Ground Detection	Permanent	
Surface Resistivity	10^5 - 10^9 Ohm	
Idle Temperature Stability	1.1 °C (2 °F) in still air	
Tip Temperature Accuracy	Meets or exceeds IPC J-STD-001 Standard	
Warranty	1 year	
	*RF SmartHeat® Technology provides greater power.	

Key Features & Benefits

- SmartHeat® Technology provides exceptional power for high thermal demand applications
- Single or Dual simultaneous outputs allow for single/dual hand-piece use
- Five hand-pieces available for increased application solutions for soldering, desoldering (upgrade kit) and rework on one system
- Each hand-piece has a comprehensive range of cartridges or tips for maximum flexibility
- Ergonomic hand-pieces for operator safety and comfort

Hand Soldering, Desoldering, & Rework

MFR-2200 & MFR-1100 Accessories

MFR-H1-SC2
Soldering Cartridge Hand-piece

MFR-H2-ST2
Soldering Tip Hand-piece

MFR-H4-TW
Tweezer Hand-piece

MFR-H6-SSC
SSC Cartridge Hand-piece

WS1
Universal Soldering Workstand

WS2
Round Soldering Workstand

MFR-WSPT
Tweezer Workstand

MFR-2200 Series

Part Number	Power Supply	Hand-pieces			Tip Saver Work-stands	
	MFR-PS2200	MFR-H1-SC2	MFR-H2-ST2	MFR-H4-TW	WS1	MFR-WSPT
MFR-2210	•	•			•	
MFR-2211	•	••			••	
MFR-2220	•		•		•	
MFR-2222	•		•		••	
MFR-2240	•			•		•
MFR-2241	•	•		•	•	•

*See hand-pieces and more accesories on page 33

MFR-1100 Series

Part Number	Power Supply	Hand-pieces				Tip Saver Work-stands		
	MFR-PS1100	MFR-H1-SC2	MFR-H2-ST2	MFR-H4-TW	MFR-H6-SSC	WS1	MFR-WSPT	WS2
MFR-1110	•	•				•		
MFR-1120	•		•			•		
MFR-1140	•			•			•	
MFR-1160	•				•			•
MFR-1161	•	•			•	•		•

*See hand-pieces and more accesories on page 33

Applicable Soldering Cartridges & Tips (Partial list)

SxP
Soldering Cartridges

RxP
Rework Cartridges

Full range on pages 36-37

SxV
Soldering Tips

CxV
Blade Tips

Full range on pages 34-35

SSC
Soldering Cartridges
(Previous SP200 System)

TxP
Tweezer Cartridges

Full range on pages 38-39

Accessories

MFR-CA3
Coil Assembly for Tip Hand-piece (**MFR-H2-ST2**)

WS1G
Auto-sleep Workstand, Green

MFR-PM70
Power Meter

AC-CP2
Cartridge / Tip Removal Pad

AC-BP
Brass Pad for Workstand (Pack of 10)

The MFR-1150 Desolder System

with Venturi Workstand provides a compact and easy shop air option.

Metcal's MFR-1150 Desoldering System is a powerful, cost effective system with a small footprint. The MFR-1150 has a powerful 0.85 bar vacuum built into the workstand which makes throughole desoldering clean and easy.

The MFR-1150 system includes a Desoldering Pistol with an easy to change, large capacity solder collection chamber to ensure minimum downtime. The pistol can easily be converted to a pencil grip for additional control. Metcal offers a wide range of long life desoldering tips that will keep your equipment working efficiently.

DxP
Deoldering Tips

Full range on page 38

MFR-H5-DS Desolder Hand-piece	
Solder Hand-piece cable length	152 cm (60"), burn proof, ESD safe
Hand piece connector	8 pin power connector
MFR-WSDSX Workstand	
Input voltage	24 V
Input power	15 W
Workstand dimensions	100 mm x 200 mm x 140 mm (4" x 8" x 5.5")
Noise level	< 55 dB
Recommended Air pressure input	550 kPa (80 PSI) - Shop air only
Vacuum suction force	0.85 bar (25" Hg)

Part Number	Description
MFR-1150	Complete System (Includes parts listed below)
MFR-PS1100	Power Supply
MFR-H5-DS	Desolder hand-piece
MFR-WSDSX	Workstand with venturi box for desolder hand-piece
MFR-FTKIT	Fittings and air hose kit
AC-TC	Desolder tip cleaner tool
AC-CP2	Cartridge and Tip Removal Pad

Key Features & Benefits

Venturi Workstand

2 in 1 Desolder hand-piece (Pistol or Pencil)

MFR-H5-DS & MFR-WSDSX
are compatible for use with all MFR systems (available under MFR-UK5 upgrade kit)

Uses DxP desolder tips and replaceable coil assembly (MFR-HDCA)

The MFR-1350 Desoldering and Rework System features an innovative desoldering hand-piece and a power supply with an internal pump providing 0.7 bar of vacuum suction force making through-hole desoldering easy.

SxP
Soldering Cartridges

Full range on page 36

DxP
Deoldering Tips

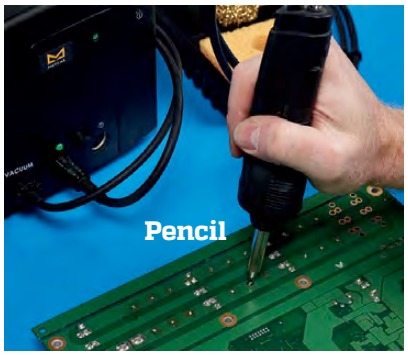
Full range on page 38

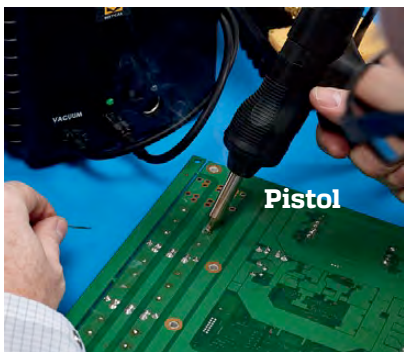
RxP
Rework Cartridges

Full range on page 37

System Specification - MFR-PS1300	
Input Line Voltage	100 - 240 VAC, grounded circuit, 50/60 Hz
Rated Power Consumption	110 W max.
Output Power	Variable, 60 W max.*
Output Frequency	450 KHz
Heating Method	Induction, SmartHeat®
Connections	Switchable Dual Port
Power Supply Dim. W x D x H	170 x 200 x 152.5 mm (6.7" x 7.9" x 6")
Power Supply Weight	3.9 kg (8.6 lb)
Certification / Marking	cTUVus, CE
Tip-to- Ground Potential	< 2 mV
Tip-to-Ground Resistance	< 2 Ohm
Ground Detection	Permanent
Surface Resistivity	10^5 - 10^9 Ohm
Idle Temperature Stability	1.1 °C (2 °F) in still air
Tip Temperature Accuracy	Meets or exceeds IPC J-STD-001 Standard
Vacuum Suction Force	0.7 bar (21" Hg at Vacuum pump)
Noise Level	< 55 dB
Warranty	1 year

*RF SmartHeat® Technology provides greater power.





Part No.	Description
MFR-1350	Desolder System with internal pump includes power supply, desolder hand-piece and workstand
MFR-1351	Solder/Desolder System with internal pump includes power supply, desolder hand-piece, solder hand-piece, and (2) workstands
MFR-PS1300	Power Supply
MFR-H5-DS	Desolder hand-piece
MFR-H1-SC2	Solder Cartridge hand-piece
MFR-WSDSU	Workstand for Desolder hand-piece
WS1	Workstand for Solder hand-piece

Key Features & Benefits

- Self-contained powerful vacuum pump
- 2-in-1 ergonomic and flexible hand-piece
- Recyclable collection chamber with increased capacity
- Quick and easy change collection chamber
- Dual switchable output
- Powered by SmarthHeat® Technology
- Compatible with previous **MFR** Desolder range

The PS-900 Production Soldering System

Metcal's PS-900 Soldering System, powered by SmartHeat® technology, is a powerful, cost-effective soldering system with a small benchtop footprint. The PS-900 is designed for lead free soldering, multi-layer boards and thermally demanding components.

Metcal's PS-900-Solar System is a specific package designed for solar cell applications, with an extended cable, and a specially designed high thermal designed STV-DRH440A hoof tip.

Key Features & Benefits

SmartHeat® temperature control

Ergonomic, lightweight handle

Rugged cast aluminum housing

Added plating thickness to tips

Low cost, quick-change heater coil

System Specification - PS-PW900	
Input Line Voltage	100 - 240 VAC, grounded circuit, 50/60 Hz
Rated Power Consumption	90 W max.
Output Power	Variable, 60 W max.*
Output Frequency	450 KHz
Heating Method	Induction, SmartHeat®
Connections	Single Port
Power Supply Dim. W x D x H	80 x 160 x 115 mm (3.1" x 6.3" x 4.5")
Power Supply Weight	1.12 kg
Certification / Marking	cTUVus, CE
Tip-to- Ground Potential	< 2 mV
Tip-to-Ground Resistance	< 2 Ohm
Ground Detection	Permanent
Surface Resistivity	10^5 - 10^9 Ohm
Idle Temperature Stability	1.1 °C (2 °F) in still air
Tip Temperature Accuracy	Meets or exceeds IPC J-STD-001 Standard
Warranty	1 year

*RF SmartHeat® Technology provides greater power.

Part No.		Description
PS-900		Complete System
Includes		
PS-PW900	1	Power Supply
PS-HC3	2	Hand-piece (PS-H3) and Coil Assembly (PS-CA3)
WS2-NS	3	Workstand, Black
SFV-CH15A	6	Chisel Solder Tip 1.5 mm (.06")
AC-CP2		Tip Removal Pad
Other Accessories Available		
PS-H3	4	Hand-piece only, NO PS-CA3 Coil Assembly
PS-CA3	5	Coil Assembly - SxV Soldering Tips/CxV Blade Tips ONLY
WS2		Auto-sleep Workstand, Black
WS2G		Auto-sleep Workstand, Green

SxV
Soldering Tips

Full range on pages 34-35

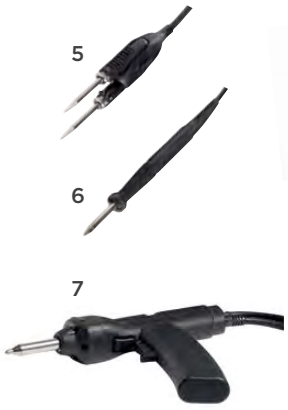
CxV
Blade Tips

Full range on page 35

Part No.	Description
PS-900-Solar	Complete Solar Soldering System
Includes Parts listed below	
PS-PW900	Power Supply
PS-900-PC9	Hand-piece with long cord (274cm / 9ft) & PS-CA3 Coil Assembly
STV-DRH440A	Soldering tip
WS2-NS	Workstand
AC-CP2	Tip removal pad

Hand Soldering, Desoldering, & Rework

MFR/PS Accessories & Spare Parts



Hand-pieces and replacement coils

PS-HC3		Soldering Handle with PS-CA3 Coil Assembly (PS-900)
PS-H3	1	Soldering Handle without Coil Assembly (PS-900)
PS-CA3	2	Coil Assembly for PS-HC3 / PS-H3 Hand-piece (PS-900)
MFR-H1-SC2	3	Cartridge Solder / Rework Hand-piece (MFR)
MFR-H2-ST2	4	Tip Solder Hand-piece (MFR)
MFR-CA3		Coil Assembly for MFR-H2-ST2 Hand-piece (MFR)
MFR-H4-TW	5	Precision Tweezer Hand-piece (MFR)
MFR-H6-SSC	6	SSC Cartridge Solder Hand-piece (MFR)
MFR-H5-DS	7	Desolder Hand-piece
MFR-HSREC		Cartridge Solder / Rework Hand-piece with long cord (1.83 m / 6 ft)
MFR-HSRLR	8	Cartridge Solder / Rework Hand-piece with long reach access

Workstands

WS1		Universal Auto Sleep Workstand
WS2		Round Auto Sleep Workstand
WS2-NS	9	Solder Workstand (PS-900)
MFR-WSPT	10	Non Sleeper Precision Tweezer Workstand
MFR-WSDSX	11	Venturi Workstand for Desolder Hand-piece
MFR-WSDSU		Non Sleeper Workstand for Desolder Hand-piece
WS1CB		Solder Rework Cradle Replacement for WS1 Workstand
WS2CB		Solder Rework Cradle Replacement for WS2 Workstand
MFR-WSDSCB		Replacement cradle for MFR-WSDSU Desolder Workstands

Lead-Free Process Identification

WS1G	12	Green Universal Auto Sleep Workstand
WS2G		Green Solder Workstand (PS-900)
WS1CG		Green Solder Rework Cradle Replacement for WS1 Workstand
WS2CG		Green Solder Rework Cradle Replacement for WS2 Workstand
AC-CK1	13	Green Identification Ring for MFR Cartridges (Pack of 50)
AC-CK3		Green Identification Ring for SSC Cartridges (Pack of 50)
AC-CK4	14	Green Identification Ring for MFR Tips (Pack of 50)

Miscellaneous Accessories

AC-BRUSH	15	Soft Brass Brush
AC-CP2		Cartridge and Tip Removal Pad
AC-FX1	16	Fume Extraction Kit
AC-IK		Interlocking / Mounting Kit
MFR-PM70		Power Meter for MFR Series
PS-PM900		Power Meter for PS-900
AC-Y10		Yellow Sponge for WS1 Workstand (Pack of 10)
AC-YS4		Yellow Sponge Round for WS2 Workstand (Pack of 10)
AC-BP		Brass Pad (Pack of 10)

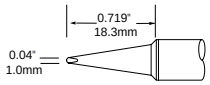
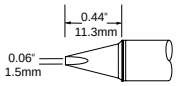
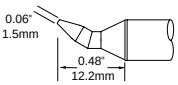
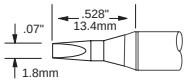
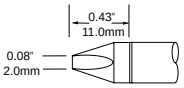
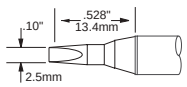
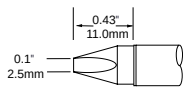
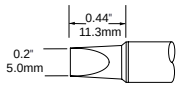
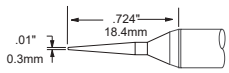
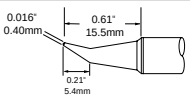
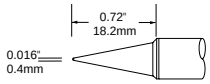
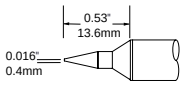
Desoldering Accessories

MFR-DC10	17	Disposable Collection Chamber for MFR-H5-DS (Pack of 10)
MFR-DC100		Disposable Collection Chamber for MFR-H5-DS (Pack of 100)
MFR-HDCA	18	Coil Assembly for MFR Desolder Hand-piece
MFR-PG		Replacement Pistol grip for MFR-H5-DS Hand-piece
AC-SK1		Seal Kit Collection Chamber (Pack of 2)
AC-VP		Vacuum Port
AC-VL		ESD Air Hose
AC-VPF		Vacuum Port Filter (Pack of 5)
LM-PS		Power supply for MFR-WSDSX with multi plug adapters
AC-TC		Desoldering Tip Cleaner Tool

Upgrade Kits

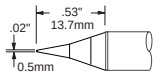
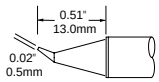
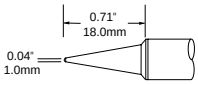
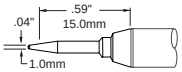
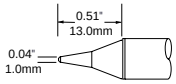
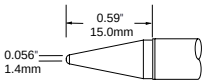
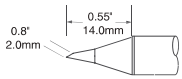
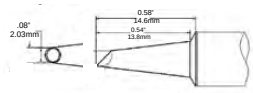
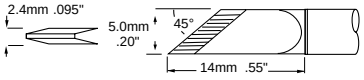
MFR-UK1	Solder Cartridge Hand-piece (MFR-H1-SC2) and Workstand (WS1)
MFR-UK2	Solder Tip Hand-piece (MFR-H2-ST2) and Workstand (WS1)
MFR-UK4	Tweezer Cartridge Hand-piece (MFR-H4-TW) and Workstand (MFR-WSPT)
MFR-UK5	Desolder Hand-piece (MFR-H5-DS) and Workstand (MFR-WSDSX)
MFR-UK6	Solder Cartridge Hand-piece (MFR-H6-SSC) and Workstand (WS2)
MFR-H5-DS-C	Desolder Hand-piece (MFR-H5-DS) and Workstand cradle (MFR-WSDSCB)

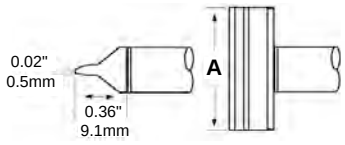
Temperature Guide & Tip Specifications_SxV-Series		
Max Temperature	**PS and MFR-Series**	**Application**
690°F/366°C	STV	Temperature Sensitive
790°F/421°C	SFV	Fiberglass, Most Standard
880°F/471°C	SCV	Ceramic and High Thermal Demand
	Compatible with: PS-900, MFR-1120, MFR-2220, MFR-2222 Systems, PS-HC3, MFR-H2-ST and MFR-H2-ST2 hand-pieces, PS-CA3, MFR-CA2 and MFR-CA3 Coil Assemblies.	
Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge (up to 15 °C lower.)		

Chisel		
	SFV-CH10A STV-CH10A SCV-CH10A	Chisel, (W x L), 1.0 x 18.3 mm (.04" x .72")
	SFV-CH15A STV-CH15A SCV-CH15A	Chisel, (W x L), 1.5 x 11.3 mm (.06" x .44")
	SFV-CHB15 STV-CHB15 SCV-CHB15	Chisel, Bent, (W x L), 1.5 x 12.2 mm (.06" x .48")
	SFV-CH18AR STV-CH18AR SCV-CH18AR	Chisel, (W x L), 1.8 x 13.4 mm (.07" x .53")
	SFV-CH20 STV-CH20 SCV-CH20	Chisel, (W x L), 2.0 x 11.0 mm (.08" x .43")
	SFV-CH25AR STV-CH25AR SCV-CH25AR	Chisel, (W x L), 2.5 x 13.4 mm (.10" x .53")
	SFV-CH25 STV-CH25 SCV-CH25	Chisel, (W x L), 2.5 x 11.0 mm (.10" x .43")
	SFV-CH50A STV-CH50A SCV-CH50A	Chisel, (W x L), 5.0 x 11.3 mm (.20" x .44")
Conical		
	SFV-CNL03AR STV-CNL03AR SCV-CNL03AR	Conical, (Ø x L), Long Reach 0.3 x 18.4 mm (.01" x .72")
	SFV-CNB04A STV-CNB04A SCV-CNB04A	Conical, (Ø x L), Bent 0.4 x 15.5 mm (.016" x .61")
	SFV-CN05A STV-CN05A SCV-CN05A	Conical, (Ø x L), 0.4 x 18.2 mm (.016" x .72")
	SFV-CNL04 STV-CNL04 SCV-CNL04	Conical, (Ø x L), 0.4 x 13.6 mm (.016" x .53")

For our complete selection of tips & cartridges, visit www.metcal.com

Temperature Guide & Tip Specifications_SxV & CxV-Series		
Max Temperature	**PS and MFR-Series**	**Application**
690 °F/366 °C	STV & CTV	Temperature Sensitive
790 °F/421 °C	SFV & CFV	Fiberglass, Most Standard
880 °F/471 °C	SCV & CCV	Ceramic and High Thermal Demand
	Compatible with: PS-900, MFR-1120, MFR-2220, MFR-2222 Systems, PS-HC3, MFR-H2-ST and MFR-H2-ST2 hand-pieces, PS-CA3, MFR-CA2 and MFR-CA3 Coil Assemblies.	
Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge (up to 15 °C lower.)		

Conical		
	SFV-CN05AR STV-CN05AR SCV-CN05AR	Conical, (Ø x L), 0.5 x 13.7 mm (.02" x .53")
	SFV-CNB05 STV-CNB05 SCV-CNB05	Conical, Bent, (Ø x L), 0.5 x 13 mm (.02" x .51")
	SFV-CNL10A STV-CNL10A SCV-CNL10A	Conical, Long Reach, (Ø x L), 1.0 x 18 mm (.04" x .71")
	SFV-CNL10AR STV-CNL10AR SCV-CNL10AR	Conical, Long Reach, (Ø x L), 1.0 x 13.7 mm (.04" x .54")
	SFV-CNL10 STV-CNL10 SCV-CNL10	Conical, Long Reach, (Ø x L), 1.0 x 13 mm (.04" x .51")
	SFV-CNL14 STV-CNL14 SCV-CNL14	Conical, Long Reach, (Ø x L), 1.4 x 15 mm (.056" x .59")
	SFV-DRH20 STV-DRH20 SCV-DRH20	Conical, Bevel, 60° x 2 mm (Ø x L), 1 x 14 mm (.04" x .55")
	SFV-WV20 STV-WV20 SCV-WV20	Rework Hoof-Cartridge – For Drag Soldering SOICs/QFPs, Concave Wave Hoof, Bevel 45°, (Ø x L), 2.0 x 13.8 mm (.08" x .54"
Rework Knife-Cartridges – For Multi-Lead Soldering of PLCCs/SOJs		
	SFV-DRK50 STV-DRK50 SCV-DRK50	Knife, Bevel 45°, (W x L), 5.0 x 14 mm (.20" x .55")

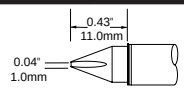
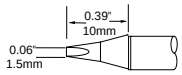
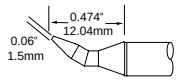
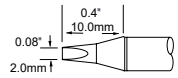
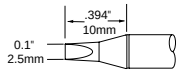
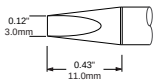
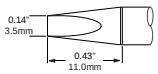
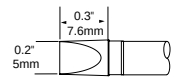
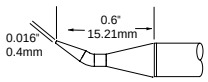
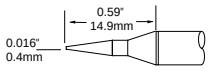
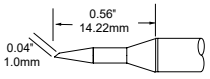
CxV Blade Tips for Rework Applications			A
			
CFV-BL100	CTV-BL100	CCV-BL100	10 mm (.40")
CFV-BL250	CTV-BL250	CCV-BL250	25 mm (1")
CFV-BL350	CTV-BL350	CCV-BL350	35 mm (1.4")
CFV-BL400	CTV-BL400	CCV-BL400	40 mm (1.6")
CFV-BL500	CTV-BL500	CCV-BL500	50 mm (2")

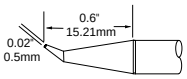
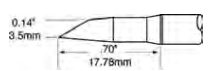
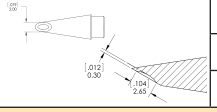
For our complete selection of tips & cartridges, visit www.metcal.com

Temperature Guide & Tip Specifications_SxP-Series

Max Temperature	MFR-Series	Application
690 °F/366 °C	STP	Temperature Sensitive
790 °F/421 °C	SFP	Fiberglass, Most Standard
880 °F/471 °C	SCP	Ceramic and High Thermal Demand
	Compatible with: MFR-1110, MFR-1161, MFR-2210, MFR-2211, MFR-2241, MFR-1350/51 Systems and MFR-H1-SC2 hand-piece.	

Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge (up to 15 °C lower.)

Chisel		
	SFP-CH10 STP-CH10 SCP-CH10	Chisel, Cone 30°, (W x L), 1.0 x 9.2 mm (.04" x .36")
	SFP-CH15 STP-CH15 SCP-CH15	Chisel, Cone 30°, (W x L), 1.5 x 10 mm (.06" x .39")
	SFP-CHB15 STP-CHB15 SCP-CHB15	Chisel, Cone 30°, Bent, (W x L), 1.5 x 12.04 mm (.06" x .474")
	SFP-CH20 STP-CH20 SCP-CH20	Chisel, Cone 30°, (W x L), 2.0 x 10 mm (.08" x .4")
	SFP-CH25 STP-CH25 SCP-CH25	Chisel, Cone 30°, (W x L), 2.5 x 10 mm (.10" x .39")
	SFP-CH30 STP-CH30 SCP-CH30	Chisel, Cone 30°, (W x L), 3.0 x 11 mm (.12" x .43")
	SFP-CH35 STP-CH35 SCP-CH35	Chisel, Cone 30°, (W x L), 3.5 x 11 mm (.12" x .43")
	SFP-CH50 STP-CH50 SCP-CH50	Chisel, Cone 30°, (W x L), 5.0 x 7.6 mm (.20" x .3")
Conical		
	SFP-CNB04 STP-CNB04 SCP-CNB04	Conical, Bent, (ø x L) 0.4 x 15.21 mm (.016" x .6")
	SFP-CNL04 STP-CNL04 SCP-CNL04	Conical, Long Reach, (ø x L) 0.4 x 14.9 mm (.016" x .59")
	SFP-BLV10 STP-BLV10 SCP-BLV10	(Bevel x L) 60° x 1 mm (ø x L) 0.5 x 14.22 mm (.02" x .56")

Rework Hoof-Cartridges – For Drag Soldering SOICs/QF					
	SFP-DRH05 STP-DRH05 SCP-DRH05		SFP-DRH35 STP-DRH35 SCP-DRH35		SFP-WV20 STP-WV20 SCP-WV20
Hoof, (ø x L) 0.5 x 15.21 mm (.02" x .6")		Hoof, Bevel 60°, Long Reach, (ø x L) 3.5 x 17.78 mm (.14" x .7")		Concave WAVE Hoof, (Bevel/L) 60° x 2.96 mm, (ø x L) 2.0 mm x 11.6 mm	

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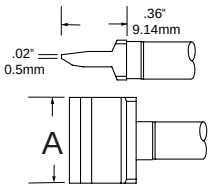
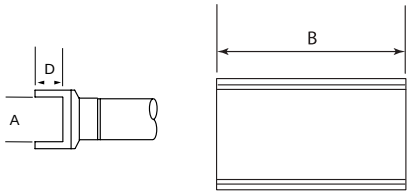
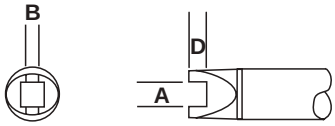
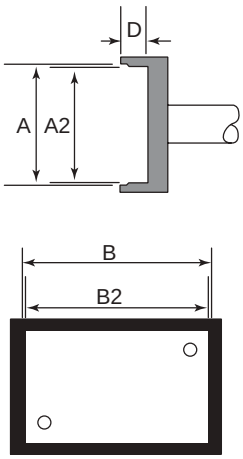
Temperature Guide & Tip Specifications_RxP-Series		
Max Temperature	**MFR-Series**	**Application**
790 °F/421 °C	RFP	Fiberglass, Most Standard
880 °F/471 °C	RCP	Ceramic and High Thermal Demand
	Compatible with: MFR-1110, MFR-1161, MFR-2210, MFR-2211, MFR-2241, MFR-1350/51 Systems and MFR-H1-SC2 hand-piece. All dimensions shown are in mm (inches)	
Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge (up to 15 °C lower.)		

All dimensions shown are in mm (inches)

Blades for Rework Applications		A	B	D	SMT TYPE
	RFP-BL1	10 (0.41)	-	-	-
	RCP-BL1				
	RFP-BL2	15.6 (0.62)	-	-	-
	RCP-BL2				
	RFP-BL3	22.1 (0.87)	-	-	-
	RCP-BL3				

Tunnel - Special Rework Cartridges		A	B	D	SMT TYPE
	RFP-DL1	5.18 (0.204)	10.16 (0.40)	3.22 (0.127)	Tunnel SOIC-14-16
	RCP-DL1				
	RFP-DL2	5.18 (0.204)	4.32 (0.17)	2.29 (.09)	Tunnel SOIC-8
	RCP-DL2				
	RFP-DL3	6.86 (.270)	11.15 (0.44)	2.29 (.09)	Tunnel SOIC-16
	RCP-DL3				

Slot - Special Rework Cartridges		A	B	D	SMT TYPE
	RFP-SL1	2.34 (.092)	1.37 (.054)	1.78 (.07)	0805 Chip Package
	RCP-SL1				
	RFP-SL2	3.48 (.137)	1.63 (.064)	1.78 (.07)	1206 Chip Package
	RCP-SL2				

Quad - Special Rework Cartridges		A	A2	D	B	B2	SMT TYPE
	RFP-QD4	12.70 (.500)	11.43 (.450)	3.81 (.150)	15.24 (.600)	13.97 (.550)	PLCC 32
	RCP-QD4						
	RFP-QD6	17.78 (.700)	16.76 (.660)	3.81 (.150)	17.78 (.700)	16.76 (.660)	PLCC 44
	RCP-QD6						
	RFP-QD7	25.27 (.995)	24.38 (.960)	5.59 (.220)	25.27 (.995)	24.38 (.960)	PLCC 68
	RCP-QD7						
	RFP-QD10	20.32 (.800)	19.30 (.760)	3.81 (.150)	20.32 (.800)	19.30 (.760)	PLCC 52
	RCP-QD10						
	RFP-QD15	13.34 (.525)	12.32 (.485)	2.79 (.110)	13.34 (.525)	12.32 (.485)	TQFP 80
	RCP-QD15						
	RFP-QD19	16.13 (.635)	16.13 (.635)	3.30 (.130)	16.13 (.635)	16.13 (.635)	QFP 44
	RCP-QD19						
	RFP-QD20	16.51 (.650)	16.51 (.650)	3.30 (.130)	22.48 (.885)	22.48 (.885)	QFP 100
	RCP-QD20						

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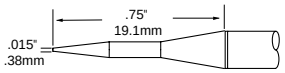
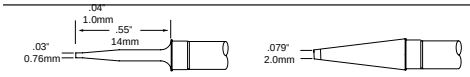
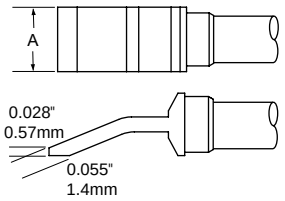
Hand Soldering, Desoldering, & Rework

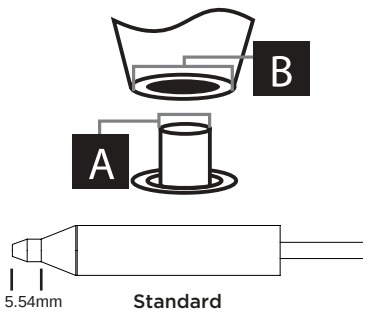
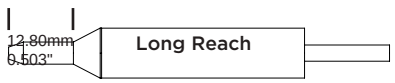
TxP Tweezer & DxP Desoldering Cartridges

Temperature Guide & Tip Specifications_TxP & DxP-Series

Max Temperature	MFR-Series	Application
690 °F/366 °C	TTP & DTP	Temperature Sensitive
790 °F/421 °C	TFP & DFP	Fiberglass, Most Standard
880 °F/471 °C	TCP & DCP	Ceramic and High Thermal Demand
	TxP Tweezer Cartridges compatible with: MFR-1140, MFR-2240, MFR2241 Systems and MFR-H4-TW hand-piece DxP Desoldering Tips compatible with: MFR-1150, MFR-1350, MFR-1351 systems with MFR-H5-DS hand-piece and previous MFR-DSX, -DSI, -SDX, -SDI Systems with MFR-HDS hand-piece. All dimensions shown are in mm (inches).	
Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge (up to 15 °C lower.)		

TxP - Rework Tweezer Cartridges - Conical		
	TFP-CNP1 TTP-CNP1 TCP-CNP1	(Ø x L), 0.4 x 19.1 mm (.015" x .75") Sold per pair.
TxP - Rework Tweezer Cartridges - Blade		
	TFP-BLP1 TTP-BLP1 TCP-BLP1	(W x L), 1.0 x 14 mm (.04" x .55"), sold per pair
	TFP-BLP2 TTP-BLP2 TCP-BLP2	(W x L), 2.0 x 14 mm (.08" x .55"), sold per pair
TxP - Rework Tweezer Cartridges - Wide Blade		**A**
	TFP-BLH40 TTP-BLH40 TCP-BLH40	6.35 mm (.25"), sold per pair
	TFP-BLH50 TTP-BLH50 TCP-BLH50	16 mm (.62"), sold per pair
	TFP-BLH60 TTP-BLH60 TCP-BLH60	20.5 mm (.81"), sold per pair
	TFP-BLH70 TTP-BLH70 TCP-BLH70	28 mm (1.1"), sold per pair

All dimensions shown are in mm (inches)

	DxP - Desoldering Tips	A	B	Type
	DFP-CN2	0.64 (.025)	1.78 (.070)	Standard
	DCP-CN2			
	DFP-CN3	0.76 (.030)	2.03 (.080)	Standard
	DCP-CN3			
	DFP-CN4	1.02 (.040)	2.28 (.090)	Standard
	DCP-CN4			
	DFP-CN5	1.27 (.050)	2.64 (.104)	Standard
	DCP-CN5			
	DFP-CN6	1.52 (.060)	2.84 (.112)	Standard
	DCP-CN6			
	DFP-CN7	2.41 (.095)	3.63 (.143)	Standard
	DCP-CN7			
	DFP-CNL3	0.76 (.030)	2.03 (.080)	Long Reach
	DCP-CNL3			
	DFP-CNL4	1.02 (.040)	2.28 (.090)	Long Reach
	DCP-CNL4			
	DFP-CNL5	1.27 (.050)	2.64 (.104)	Long Reach
	DCP-CNL5			

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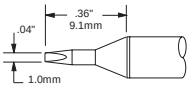
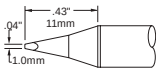
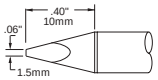
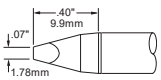
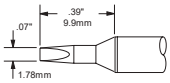
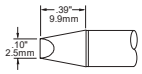
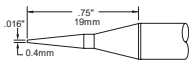
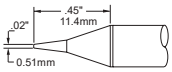
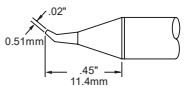
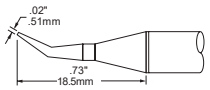
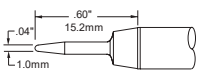
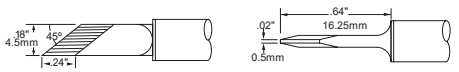
Temperature Guide & Tip Specifications_SSC-Series		
Max Temperature	**MFR & SP200-Series**	**Application**
675 °F/357 °C	SSC-6	Temperature Sensitive
775 °F/413 °C	SSC-7	Most Standard
	Compatible with: SP200, MFR-1160 Systems, SP-HC1 and MFR-H6-SSC hand-pieces	
Please note the above temperatures are the maximum temperatures of the heater. The idle temperature is dependent on the geometry of the cartridge (up to 15 °C lower.)		

Chisel		
	SSC-671A	Chisel, (W x L) 1.0 x 9.1 mm (.04" x .36")
	SSC-771A	
	SSC-625A	Chisel, (W x L) Cone 30°, 1.0 x 11 mm (.04" x .43")
	SSC-725A	
	SSC-638A	Chisel (W x L) 30°, 1.5 x 10 mm (.06" x .40")
	SSC-738A	
	SSC-637A	Chisel (W x L) 30°, 1.78 x 9.9 mm (.07" x .40")
	SSC-737A	
	SSC-672A	Chisel, (W x L) 1.78 x 9.9 mm (.07"x .39")
	SSC-772A	
	SSC-636A	Chisel 30°, (W x L) 2.5 x 9.9 mm (.10" x .39")
	SSC-736A	
Conical		
	SSC-645A	Conical, Sharp, Long Reach, (Ø x L), 0.4 x 19 mm (.016" x .75")
	SSC-745A	
	SSC-622A	Conical, Sharp, (Ø x L), 0.51 x 11.4 mm (.02" x 45")
	SSC-722A	
	SSC-626A	Conical, Sharp Bent 30°, (Ø x L), 0.51 x 11.4 mm (.02" x .45")
	SSC-726A	
	SSC-654A	Conical, Sharp Bent 30°, Long Reach, (Ø x L), 0.51 x 18.5 mm (.02" x .73")
	SSC-754A	
	SSC-601A	Conical, Sharp, (Ø x L), 1.0 x 15.2 mm (.04" x .60")
	SSC-701A	
Rework Knife-Cartridges – For Multi-Lead Soldering of PLCCs/SOJs		
	SSC-661A	Knife, Bevel 45°, (W x L), 4.5 x 16.25 mm (.18" x .64")
	SSC-761A	
	SSC-673A	Knife, Bevel 45°, Increased tinned area 6.1 mm ,(W x L), 5.1 x 16.25 mm (.24" x .64")
	SSC-773A	

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Convection Rework

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Programmable Hand-Held Convection Tool

HCT-900
Hand-Held Convection Tool

HCT2-200
Digital Hot Air Pencil

MRS-1100A
Modular Rework System

PCT-1000
Programmable Preheater

PCT-100
Focused Convection Preheater

The HCT-1000 is a fully Programmable Hand-Held Convection Tool offering fast and easy removal and placement of SMT components.

The HCT-1000 stands out as a versatile convection rework tool. It can be used on its own or as part of the MRS-1100A Modular Rework System for more complex applications.

The system comes equipped with a nozzle Ø 5 mm and nozzle adapter. In addition, a wide range of nozzles are available.

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System Specification - HCT-1000	
Input Line Voltage	100 - 240 VAC, 50/60 Hz
Rated Power	600 W
Surce Temperature	Up to 450 °C (840 °F)
Heating Method	Convection
Airflow	5 - 25 l/min
Noise Level	< 55 dBA at maximum airflow
Surface resistivity	10^7 - 10^{11} Ohm
Vacuum Pump for Pick-Up Components	381 mm Hg (15" Hg)
Display	LCD, 20 X 4 display segments
Operational Modes	Setup, Run, Manual, Active Setup
Storable Solder Profiles	50
Size W x D x H	178 x 229 x 152 mm (7" x 9" x 6")
Weight	5.4 kg (12 lb)
Certification/Marking	TUV, CE

Part No.	Description
HCT-1000	Programmable Hand Held Convection Tool
Includes parts listed below	
HCT-PS1000	HCT-1000 Power Supply
HCT-HV1	Hand-piece with integral vacuum, cord & connector
HCTA-VC-KIT	Vacuum Cup kit, one of each *(see Accessories)
HCTA-TH1	Hand-piece Tool Holder
HNA-1	Nozzle Adapter
HCTA-NW1	Nozzle Wrench
AC-TCK-36-36	Thermocouple, Ø 0,13 mm (36 AWG), pack of 2
HCTA-CC	Communication cable, length 1.22 m (4 ft)
HN-J0005	Nozzle, ø 5 mm

Accessories

HCT-FS2 1
Footswitch, Dual, HCT-1000

HCT-HTRASSY
Heater Assembly

AC-TCK-40-36
Thermocouple, Ø 0,08 mm (AWG 40) pack of 2

HCTA-VC50-5 *
Vacuum Cup, 3/16" (Ø 5 mm), pack of 5

HCTA-VC64-5 *
Vacuum Cup, 1/4" (Ø 6.4 mm), pack of 5

HCTA-VC80-5 *
Vacuum Cup, 5/16" (Ø 8 mm), pack of 5

HCTA-VC11-5 *
Vacuum Cup, 7/16" (Ø 11 mm), pack of 5

Key Features & Benefits

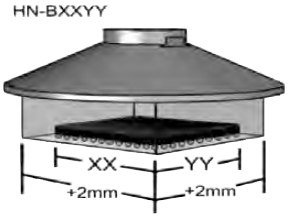
- Integrated vacuum pickup for easy component removal
- Profile creation for operator repeat-ability and storage for up to 50 user defined profiles
- Manual mode for quick setup
- External thermocouple for process setup and verification
- Hand-piece controls for heater and vacuum
- Programmable, digitally controlled airflow for repeatable results
- Multiple modes of operation: manual, 4 zone heating (with the MRS-1100A System)
- The HCT-1000 is connected to the PCT-1000 via a cable when used as part of the MRS System
- May be used with ATH-1100A Adjustable Tool Holder

HN Series Nozzles

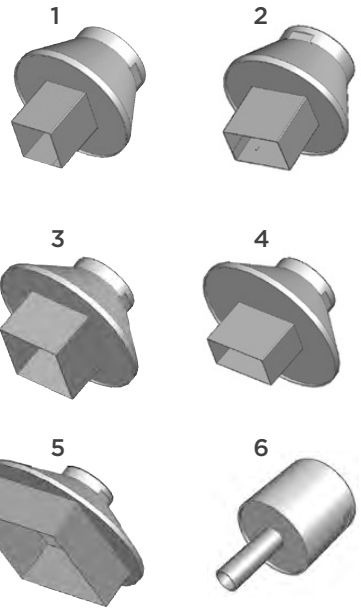
A series of 14 Nozzles are available for use with the MRS-1000/HCT-1000. The nozzles fit applications reworking components of all sizes from (including, but not limited to) BGAs, QFPs, LGAs, PLCC and SOIC. A custom nozzle program is also available.

Nozzle Measurement and Selection

The nozzle part number (the digits after the "B") represents the size of the component. 2 mm have been added to each side of the internal nozzle dimension to allow for component access.



Part Number		Component Size	Components
HN-B0707	1	7 X 7 mm	CSP, LGA44
HN-B1010	1	10 X 10 mm	CSP, LGA178, LCC28
HN-B1414	1	14 X 14 mm	CSP, QFP, TQFP100
HN-B1408	2	14 X 8 mm,	CSP, SOIC24M
HN-B1515	3	15 X 15 mm	BGA
HN-B1818	3	18 X 18 mm	PLC44, CSP, TQFP100, BGA
HN-B2525	3	25 x 25 mm	BGA, PLCC68
HN-B1809	4	18.2 X 8.5 mm	SOLJ28, SOIC28M, TSOP32
HN-B2519	4	24.5 X 18.5 mm	QFP100, QFP80
HN-B2727	5	27 X 27 mm	BGA
HN-B3232	5	32 X 32 mm	BGA
HN-B3535	5	35 X 35 mm	BGA
HN-B4040	5	40 X 40 mm	BGA
HN-J0005	6	Small to large Size	DISCRETE



Nozzle Accessories

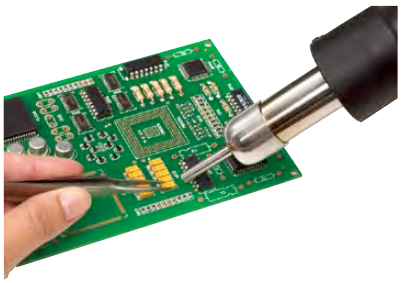
HNA-1 Nozzle Carrier	7
HCT-NC Nozzle Adapter	8
HCTA-NW1 Nozzle Wrench	9

The HCT-900 Hand Held Convection Tool offers a low cost, versatile rework solution for a wide variety of production and rework application challenges.

- Rework a wide range of simple and complex SMT components
- Rework pin in-hole devices such as sockets and connectors
- Remove solder shorts and splashes by using it with solderbraid and flux
- Plastic applications such as applying shrink wrap to components

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

The HCT-900 can be used for the removal and replacing of electronic components, including lead-free, from 0201 up to 304 pin QFP.



System Specification - HCT-900	
Input Line Voltage	HCT-900-11, 110 VAC, 60 Hz HCT-900-21, 240 VAC, 50 Hz
Rated Power	320 W
Source Temperature	100 - 500 °C (212 - 932 °F)
Heating Method	Convection
Airflow	6 - 25 l/min
Noise Level	< 46 dBA at maximum airflow
Surface resistivity	Unit: 10^5 - 10^6 Ohm, Hand-Piece & tube 10^7 - 10^{11} Ohm
Size W x D x H	170 x 210 x 140 mm (6.7" x 8.7" x 5.5")
Weight	4.7 kg (10.4 lb)
Certification/Marking	cTUVus, CE

Key Features & Benefits

Versatile Hot Air Tool for soldering and desoldering applications

Robust and compact design

Analog controls for both airflow and heat

Closed loop feedback circuit controls the temperature

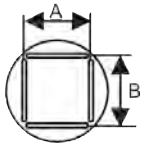
Unique low noise air pump (less than 46 dBA) provides precise airflow control

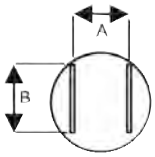
A closed loop feedback circuit allows the desired temperature to be achieved and maintained regardless of changes in the volume of airflow.

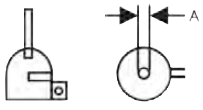
The HCT-900 is supplied with a standard single jet H-D50 (ø 0.2", 5.0 mm) nozzle. In addition, two rework nozzle kits, predefined for specific applications, are available, as well as a full selection of nozzles.

NZKT-1 Nozzle Kit for Chip Resistors, SOIC & TSOP Package.
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







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	21.0 (0.83")	21.0 (0.83")
H-P68	PLCC-68	27.1 (1.07")	27.1 (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")
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")

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

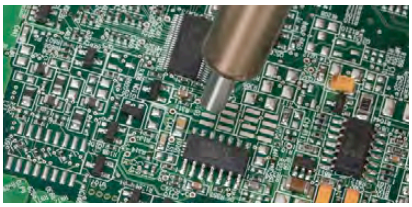
HCT2-200 Digital Hot Air Pencil

The latest addition to Metcal's convection rework tools.

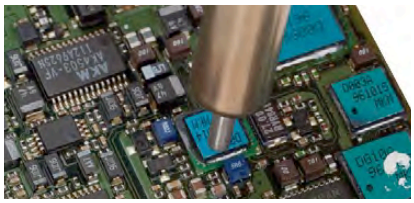
This digital handheld convection tool is ideally suited for light rework applications, which use smaller components and integrated circuits. As component miniaturization continues (i.e. 01005 components) the ergonomics of a pencil allow a user more freedom to access and rework components on the board without affecting adjacent parts. Larger handheld convection systems commonly reflow and dislodge adjacent components due to a higher minimum airflow. The HCT2-200's small nozzle sizes, precision control and thermal power allow the operator to target only the desired component.

Applications

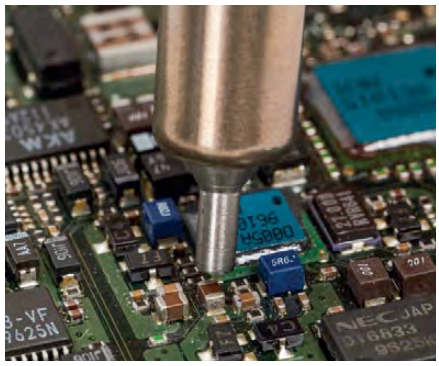
The HCT2-200 was developed for very small surface mount component and package sizes (1210s and smaller) and low board densities. For denser PCBA's or applications with heavy copper planes; boards > 4 layers; or components larger than 50 mm^2, use of a Metcal preheater (PCT-100 series) may be necessary.



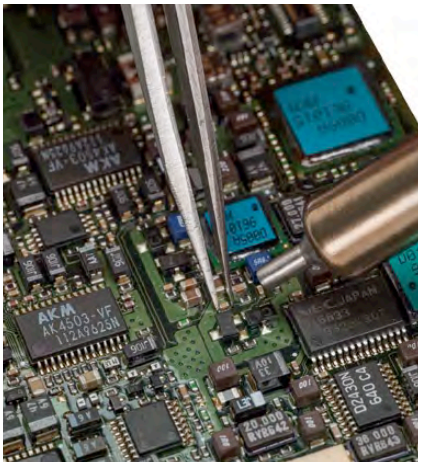
SOICs



0201s



1210s



Technical Specifications

HCT2-200 Digital Hot Air Pencil	
Input Line Voltage	HCT2-200-11, 110 VAC, 60 Hz
	HCT2-200-21, 240 VAC, 50 Hz
Rated Power	200 W
Source Temperature	100 - 450 °C (212 - 932 °F)
Heating Method	Convection
Airflow	1.5 - 7 l/min
Noise Level	< 52 dBA at maximum airflow
Surface resistivity	10^5 - 10^9 Ohm
Display	Temperature & Air Flow
Size W x D x H	10.6 x 21.3 x 17 cm (4.2" x 8.4" x 6.7")
Weight	2.63 kg (5.8 lb)
Certification/Marking	CNRTLus, CE, RoHS + WEEE

Convection Rework

HCT2-200 Nozzles & Accessories

Easy change heater

Workstand with nozzle holder

Easily change heaters & nozzles in seconds

6 straight nozzles, (Ø 1.5 mm - 4.0 mm)

Part Number	Description
HCT2-200-11	Digital Hot Air Pencil, 115V
HCT2-200-21	Digital Hot Air Pencil, 230V
Both Systems Include	
HCT2-200-HP	Hand-piece
HCT-WS120	Work Stand with Nozzle Holder
HCT-HTR200	Heater Assembly, 200W
HN-120KIT-6	Pack of 6 Straight Nozzles (Ø 1.5 mm, 2.0 mm, 2.5 mm, 3.0 mm, 3.5 mm and 4.0 mm)
AC-CP2	Nozzle Removal Pad
Optional Accessories	
HN-HCT2-BENT-6	Pack of (6) Bent Nozzles (Ø 1.5 mm, 2.0 mm, 2.5 mm, 3.0 mm, 3.5 mm and 4.0 mm
HN-120COL	Collet Kit Replacement for Straight Nozzles

Key Features & Benefits

200 Watt Ceramic Heater and Dual Stage Air Pump

Provides the power and performance needed to deliver the right amount of thermal energy.

Digital Airflow & Temperature Controls

Two LED displays provide a graphical and numerical representation of the desired airflow and temperature.

Fast Response and Performance

A microprocessor controlled, closed loop feedback system provides fast heating, precise and stable temperature control.

Standby Mode

When the hand-piece is placed into the workstand, the temperature will drop prolonging heater life.

Replaceable Hand Piece

Hand piece has been redesigned to allow removal from front of the machine.

Ergonomic and Light Weight Hand-Piece

Slim and ergonomic design hand-piece that feels like a pencil, with a rubber grip.

Easily Change Heaters and Nozzles

Both can be changed in seconds.

Nozzles

Six nozzles (Ø 1.5 mm – 4.0 mm) are included in the unit with a nozzle plate holder inside the workstand.

Optional Accessories

Six Bent Nozzles (Ø 1.5 mm - 4.0 mm) for easy access and use under microscope

The PCT-1000 is a fully Programmable Preheater offering more heat capacity for soldering with lower temperatures for

The PCT-1000 provides users exceptional ability to increase heat capacity with highly controlled thermal output.

The PCT-1000 can be used as a stand-alone unit or as part of the MRS-1100A Modular Rework System.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System Specification - PCT-1000	
Input Line Voltage	100 - 240 VAC, 50/60 Hz
Rated Power	1200 W
Source Temperature	25 - 400 °C (77 - 752 °F)
Heating method	Convection
Airflow	538 l/min (19 cfm)
Display	LCD, 20 X 4 display segments
Operational Modes	Setup, Run, Manual, Active Setup
Size W x D x H	203 x 330 x 76 mm (8" x 13" x 3")
Weight	3.4 kg (7.5 lb)
Certification	cTUVus, CE

Part No.		Description
PCT-1000	1	Programmable Preheater
Includes parts listed below		
PCT-FS1	2	PCT-1000 Foot Switch
AC-TCK-36-36	3	Thermocouple, Ø 0,13 mm (36 AWG), Pack of 2

Key Features & Benefits

- Adds heat capacity and enables lower process temperatures
- Used in a variety of processes in-cluding soldering, desoldering, SMD rework
- Provides faster production rates while lowering overall process temperatures.
- 2 modes: manual for constant heater temperature and profile for greater process control
- 4 programmable heating zones and 1 cooling zone
- Storage for up to 50 user defined profiles for easy set-up
- Heater control with temperature controlled either at the heater output or at the board
- High efficiency vortex heater design maximizes ramp to temperature for increased productivity

The PCT-100 is a focused convection preheater that is designed to provide extra heat capacity for demanding applications.

Unlike conventional preheaters, the PCT-100 Focused Convection Preheater directly targets the underside of the PCB providing a substantial thermal boost for lead-free processes.

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System Specification - PCT-100	
Input Line Voltage	PCT-100-11, 110 VAC, 60 Hz, PCT-100-21, 240 VAC, 50 Hz
Rated Power	450 W
Source Temperature	Up to 300 °C (572 °F)
Heating method	Convection
Airflow	280 l/min (9.88 cfm)
Surface resistivity	10^6 - 10^{11} Ohm
Size W x D x H	155 x 205 x 65 mm (6.1" x 8" x 2.6")
Weight	1.6 kg (3.5 lb)
Certification/Marking	cTUVus, CE

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Part No.		Description
PCT-100-11	1	Preheater 115V
PCT-100-21	1	Preheater 230V
PCT-101-11	2	Preheater 115V with Arm Rest
PCT-101-21	2	Preheater 230V with Arm Rest
PCT-102-11	3	Preheater 115V with Arm Rest and Boardholder
PCT-102-21	3	Preheater 230V with Arm Rest and Boardholder
PCT-103-11		Preheater 115V with Arm Rest and Integrated Boardholder
PCT-103-21		Preheater 230V with Arm Rest and Integrated Boardholder
PCT-1HE-11		Heating Element Replacement for PCT-100 115V
PCT-1HE-21		Heating Element Replacement for PCT-100 230V
BH-010		Integrated Boardholder for PCT-100 (see page 53)
BH-100	4	Boardholder for PCT-100
PCT-AR	5	Arm Rest for PCT-100
PCT-ARPAD		Replacement Pad for Arm Rest PCT-AR

Key Features & Benefits

- For hand soldering, through-hole desoldering, hot air SMT rework, lead-free, multi-layer boards and assemblies with large ground planes
- Improved process time and exceptional control of potentially damaging temperatures
- Vented top plate allows the PCB to be placed directly over the heater for maximum heat transfer
- Integrated or stand-alone board holder
- Optional adjustable-angle arm rest

Convection Rework
ATH-1100A & MRS-1100A

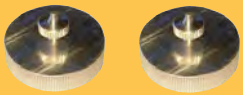
BH-2000
Free Standing Board Holder
provides a solid and stable base for a variety of PCBs. The unit features easily adjust-able rails to accommodate boards 8" (203 mm) x open-ended.

BH-1000
Post-Rail Board Holder
Includes: 4 posts, 2 rails with sliding clips, 4 support pins and flat-head sup-port. Minimum PCB size is 0.60" (15 mm)

BH-100 Board Holder
Recommended for use with the PCT-100 Pre-heater. Accommodate boards 12" (305 mm) x 12" (305 mm)

BH-010 Integrated Board Holder for PCT-100
Accommodate boards 3.5" (89 mm) x 7" (178 mm)

BH-PK1000
Board Holder Pin Kit
Includes: 2 discs,2 long pins, 2 short pins



The ATH-1100A Adjustable Tool Holder
is designed to work with theHCT-1000 or as part of the MRS-1100A System.

- Advanced Head Assembly features 102 mm (4") of Z axis adjustment, 12,7 mm (1/2") fine adjustment of the X & Y axis as well as 30° Θ adjustment.
- Features locking hand-piece retainer, Z axis stop and mounting configurations for stand-alone operation or integrated as part of the MRS-1100A.
- Sturdy and easy to attach to the PCT-1000 Programmable Preheater when incorporated into the MRS System.
- Can be attached to the PCT-1000 or used as a standalone unit

The MRS-1100A Modular Rework System
is an integrated convection rework system for the removal and reflow of BGA/CSP and SMT components.

The MRS-1100A is comprised of a convection tool, a preheater, an adjustable tool holder, and a free-standing board holder to create a manually assisted rework system. A series of nozzles, targeting a variety of applications round out the product offering for this system.

Key Features & Benefits

- Digital display for repeatable temperature settings and profile control
- Automatic control of the preheater for simple operation
- Easy profile creation for operator repeatability
- Integrated vacuum pickup for easy component removal
- Hand held or tool holder mounted for operator comfort
- Manual mode for quick setup
- External thermocouple for process setup and verification
- Digital controlled airflow for repeatable results
- X, Y, Z and Theta controls for component alignment
- Adjustable PCB holder for easy change outs
- Automatic vacuum lift off at the end of the cycle
- Password lockout of programmed profiles

Why Fume Extraction?

Solder smoke is more than just an irritant. It can reduce worker productivity through a loss of concentration and fatigue. These and other health concerns, occupational asthma as an example, may be a result of exposure to solder fumes during the production process. As an employer, you are responsible for properly managing the health risks associated with solder fumes and take appropriate precautionary measures. Solder fume extraction is a simple way to manage the risk to employees and your organization.

BVX-100
Benchtop Single User Arm/Plenum System

BVX-200
Two Stations Portable Filter Unit

BTX-208
Portable Tip Extraction Unit

VFX
Multi User Extraction Unit

BVX-100
Benchtop Single User Arm/Plenum System

- Quiet Unit
- Portable, single user unit
- No external ducting or compressor needed
- Powerful 85 m3/h airflow rate
- Unit easily fits on and under any workbench
- Innovative adaptor transforms the plenum into an arm
- Immediate extraction of fumes, particles and vaports
- Two filtration configurations: heavy soldering & light dust or light duty organic solvent and adhesive applications
- Bi-colored LED light indicates when the filters are blocked and require replacing

Key Features & Benefits

Complete portability
Designed for under-bench installation

Main filter has a HEPA efficiency of 99.97 %
at 0.3 micron, and an activated carbon filter to remove gases

Both pre- and main- filters
can be changed independently

Plug-and-play ducting system
for simple, flexible low cost solution and fast installations

Filters are easy to remove and replace

Part Number	Description
BVX-101	Bench-Top, single user arm/plenum system with Pre-, HEPA/Gas-Filter
BVX-103	Bench-Top, single user arm/plenum system with Pre-/Gas-Filter

Filters

FG-BVX	Deep Bed Gas Filter
FM-BVX	Main Filter, HEPA/Gas (Carbon)
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-CH01	Connection hose, Ø 50 mm (2") x 1.8 m (6') long
BVX-TB01	Table bracket with 2 C-clamps

System Specification	BVX-100
Static Pressure (suction force)	1250 Pa (5"WC)
Fan Capacity	110 m^3/h (65 cfm)
Flow Rate (with filter)	85 m^3/h (50 cfm)
Air Inlets/Number of Stations	1
HEPA Efficiency	99.97 % at 0.3 micron
Noise Level	< 55 dBA
Dimensions (W x D x H)	300 x 230 x 290 mm (11.8" x 9.1" x 11.4")
Weight	9 kg (20 lbs)
Input Line Voltage	100 - 240 VAC
Frequency	50 - 60 Hz
Power	85 W
Certification	cTUVus, CE
Max duct run	1.8 m (6')

BVX-200
Two Stations Portable Filter Unit

- Two station arm design for dynamic fume extraction
- Quiet brushless motor
- Complete portability, placed under or next to the bench-top
- For use with 2 Arms Ø 50 mm (2") or 1 arm Ø 63 mm (2.5")
- Main filter has a HEPA efficiency of 99.97% at 0.3 micron, and an activated carbon filter to remove additional gases
- Deep-bed gas filter for high capacity of gas filtration, such as cleaning with solvents or conformal coatings
- Audible alarm informs operators when filters need replacing
- Easy access bench-top on/off remote switch

Part Number	Description
BVX-201	Filter unit for 2 stations with Pre-, HEPA/Gas-Filter and Remote Switch
BVX-203	Filter unit for 2 stations with Pre-, Gas-Filter and remote Switch
BVX-201-KIT	Filter unit with 2 BVX-ARML with Pre-, HEPA/ Gas-Filter and Remote Switch
BVX-201-KIT1	Filter unit with 2 BVX-ARM-K1 with Pre-, HEPA/ Gas-Filter and Remote Switch
Filters	
FP-BVX200	Pre-Filter (Pack of 5)
FM-BVX200	Main Filter, HEPA/Gas (Carbon)
FG-BVX200	Deep Bed Gas Filter (Carbon)
Accessories	
BVX-ARM-K1	ESD-Arm - Ø 50 x length 760 mm (30") with hose 1.8 m (6') long & table bracket w/C-clamps
BVX-ARM-K2	ESD-Arm - Ø 50 x length 760 mm (30") & table bracket w/C-clamps
BVX-ARM	Arm, flexible, ESD safe, Ø 50 mm x 760 mm (30") long
BVX-ARML	Arm, flexible, ESD safe, Ø 50 mm x 1.5 m long (59") with arm clip
BVX-TB01	Table bracket with 2 C-clamps
BVX-CH01	Connection hose, Ø 50 mm (2") x 1.8 m (6') long
BVX-CH02	Connection hose, Ø 50 mm (2") x 3.6 m (12') long
RPS-1	Remote power switch (for use with BVX-200 only)

Key Features & Benefits

Complete portability
Designed for under-bench installation

Main filter has a HEPA efficiency of 99.97 %
at 0.3 micron, and an activated carbon filter to remove gases

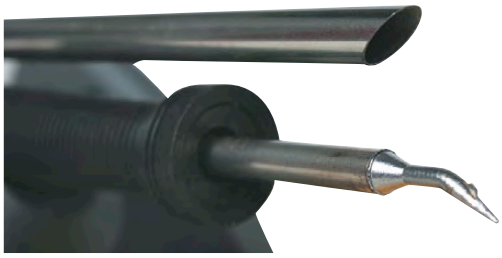
Both pre- and main- filters
can be changed independently

Plug-and-play ducting system
for simple, flexible low cost solution and fast installations

System Specification	BVX-200
Static Pressure (suction force)	850 Pa (3.5"WC)
	250 m^3/h (150 cfm)
Flow Rate (with filter)	2 x 75 m^3/h (45 cfm)
Air Inlets/Number of Stations	2
HEPA Efficiency	99.97 % at 0.3 micron
Noise Level	< 55 dBA
Dimensions (W x D x H)	508 x 254 x 388 mm (20" x 10" x 15.3")
Weight	9 kg (20 lbs)
Input Line Voltage	100 - 240 VAC
Frequency	50 - 60 Hz
Power	85 W
Certification	cTUVus, CE
Max duct run	3.6 m (12')

BTX-208
Portable Tip Extraction Unit

Part Number	Description
BTX-208	Filter Unit for 8 Tip Extraction Station with Pre-, HEPA/Gas-Filter
Filters	
FP-BVX200	Pre-Filters (pack of 5)
FM-BVX200	Main Filter, HEPA/Gas (Carbon)



System Specification

BTX-200 Portable Tip Extraction Unit	
Input Line Voltage	100 - 240 VAC, 50 - 60 Hz
Rated Power	85 W
Air Inlets/Number of solder stations	8
Duct run	30 m (100") max.
Flow Rate per extraction tube	> 28 l/min
HEPA Efficiency	99.97 % at 0.3 micron
Noise Level	< 55 dBA
Dimensions (W x D x H)	508 x 254 x 388 mm (20" x 10" x 15.3")
Weight	9 kg (20 lb)
Certification/Marking	UL, CSA, CE

Key Features & Benefits

High performance extraction
directly from the tip of any iron

Easy extraction network
configuration for up to 8 benches

Complete portability
Designed for under-bench installation

Main filter has a HEPA efficiency of 99.97 %
at 0.3 micron, and an activated carbon filter to remove gases

Both pre- and main- filters
can be changed independently

Plug-and-play ducting system
for simple, flexible low cost solution and fast installations

Universal hose connection kit

Connection Kits		
BTX-CK2-25		Connection Kit for 2-4 stations with 2.5 m (8') long hose, Ø 35 mm
BTX-CK4-50		Connection Kit for 4 -8 stations with 5 m (16') long hose, Ø 35 mm
BTX-CK4-75		Connection Kit for 4-8 stations with 7.5 m (25') long hose, Ø 35 mm
Individual Parts		
CH0121	1	Flexible Hose, Ø 35 mm x length 2.5 m (8')
CH0122	1	Flexible Hose, Ø 35 mm x length 5 m 16')
CH0123	1	Flexible Hose, Ø 35 mm x length 7.5 m (25')
AC-TX001-4	2	Couplings with 2 Glands, Ø 5.6 mm (pack of 4)
AC-TX002-2	3	T-piece Connector, Ø 35 mm (pack of 2)
Iron Adapter Kits		
AC-FX1		Universal tip extraction iron adapter clip

VFX-1000
Benchtop Single User Arm/Plenum System

The VFX-1000 Fume Extraction unit is Metcal's next generation under-the-bench fume extraction unit. Its improved pre-filter provides higher efficiency, and its enhanced gas filter that is a 50/50 mix of Activated Aluminum Potassium Permanganate and Active Carbon allows for a wider range of fume extraction.

VFX Volume Fume Extraction Systems	
VFX-1000-H	VFX-1000 with Pre-, HEPA/Gas-Filter
VFX-1000-G	VFX-1000 with Pre-, Deep Bed Gas Filter

System Specifications - VFX-1000	
Voltage	100 - 240 VAC, 50 - 60 Hz
Rated Power	12.5 amp / 1.1 kW, grounded circuit
Duct run	10 m
Max. Number of Arms Ø 32 mm	7
Max. Number of Arms Ø 50 mm	5
Fan Capacity	350 m³/h (206 cfm) / 96 mbar
HEPA Efficiency	99.997 % at 0.3 micron
Noise Level (Typical at low speed)	< 58 dBA
Dimensions (W x D x H)	590 x 375 x 415 mm (23.2 x 14.8" x 16.3")
Weight	35 kg (77 lb)
Certification/Marking	CE, REACH, RoHS Compliant

The selection of the fume capture device should be guided by your application and work habits. Contact your local sales rep for additional guidance.

System performance is a function of the following factors and will decrease if:

- Hose Diameters decrease
- Length of ducting increases
- Number of 90° bend increases
- Number of arms increases

All exhaust arms are made of ESD material and are supplied with appropriate mounting accessories. The design allows for mounting the arms to a variety of surfaces.

Features & Benefits

- **Digital Speed Control**
- **Deep Pleat Pre-Filter**
- **Blower with high airflow and pressure**
- **3 stage filtration**
- **Built in silencing**
- **Long life filters with low replacement costs**
- **Remote speed control**
- **Remote Start/Stop Interface**

Nozzle Selection	
Round/Funnel	Point and small area extraction for: • Soldering, • Gluing/Bonding, • Laser marking Fumes
Oval	Point extraction for: • Soldering under a microscope, • Laser marking Fumes
Rectangular	Area extraction for: • Soldering, • Gluing/Bonding
Large Rectangular/ Large Hood	Large area extraction for: • Soldering of large boards, • Large Solder Pots
Plenum/Funnel	Area extraction for: • Soldering, • Gluing/Bonding
Cabinet	Area extraction for: • Volatile gases, • Toxic gases, • Odors

Fume Extraction Accessories	
Fume Extraction Cabinet	
AC-VFX-CAB-75	Fume Extraction Cabinet with 2 LED-lights, 2 x 1.5 mm long hoses x Ø 75 mm and hose clamps
AC-VFX-75X75	Adapter Ø 75 mm to connect 2 tubes Ø 75 mm
AC-VFX-HS7525	Hose, Ø 75 mm x 2.5 m long
Arms Ø 32 mm	
AC-VFX-ARM-32F	Arm, Ø 32 mm x 650 mm long with round funnel
AC-VFX-ARM-32N	Arm, Ø 32 mm x 650 mm long with oval nozzle
Arms Ø 50 mm	
AC-VFX- ARM-RF	Arm, Ø 50 mm x 650 mm long with round funnel
AC-VFX- ARM-PF	Arm, Ø 50 mm x 650 mm long with plenum funnel
AC-VFX- ARM-LF	Arm, Ø 50 mm x 650 mm long, LED with round funnel, Power adapter
AC-VFX- HK75	Hose Kit Adapter, Ø 75 mm to 50 mm
Note: Each AC-VFX-ARM-xx requires one hose kit	

VFX Filters

AC-VFX-FIL-PRE
Deep Pleat Pre-Filter for VFX-1000

AC-VFX-FIL-HEPA
Combined HEPA/Gas Filter for VFX-1000

AC-VFX-FIL-GAS
Deep Bed Gas Filter for VFX-1000

Fume Extraction Systems (continued)	
OMNIFLEX ARMS Ø 63 mm	
AC-VFX-ARM-ORN	Ø 63 mm Omniflex arm with rectangular nozzle, 150 x 88 mm bracket, C-clamps and hose clamp
AC-VFX-ARM-OTN	Ø 63 mm Omniflex arm with oval nozzle, bracket, C-clamps and hose clamp
AC-VFX-ARM-OLH	Ø 63 mm Omniflex arm with large hood, 350 x 212 mm bracket, C-clamps and hose clamp
AC-VFX-HK7563	Ø 75 mm to 63mm Hose Kit adapter
Note: Each AC-VFX- ARM-xx Omniflex requires one hose kit (AC-VFX-HK7563)	
AC-VFX-YAD63	Y Adapter, Ø 63 mm with hose (305 mm) and 3x hose clamps
Q-AD426530	Replacement Nozzle – Rectangular, 150 x 88 mm
Q-AD426550	Replacement Nozzle – Tapered
Q-AD426560	Replacement Nozzle – Large Hood, 350 x 212 mm
AC1101	Damper for Omniflex arms Ø 63 mm
AC1102	Omniflex arm extension, Ø 63 mm x 30 cm length
CH0251	Connection hose, Ø 63 mm x length 2.5 m (8')
CH0252	Connection hose, Ø 63 mm x length 3.5 m (12')
CH0253	Connection hose, Ø 63 mm x length 7.5 m (25')
AC2025	Y Adapter, Ø 63 mm and hose Ø 63 mm x length 305 mm with 3 clamps
Additional Accessories	
AC-VFX-HK75CONN	Arm connection receptacle with seal and hardware for Arms with Ø 32/50 mm
AC-VFX-HK75BRK	Bracket with (2) clamps
AC-VFX-HK75RED	Reducer, Ø 50/40 mm
AC-VFX-HK75HC	Hose clamp
AC-VFX-HK75CL	50 mm Hose clip
AC-VFX-HK75H50	Flexible Hose, Ø 50 mm x length 1 m
AC-VFX-HK75H75	Flexible Hose, Ø 75 mm x length 2.5 m
AC-VFX-HK75TCONN	Ø 75 x 50 mm x 75mm T-Connector and cover
AC-VFX-HK75CAP	Ø 75 mm End Cap
AC-VFX-HK75CUFF75	Ø 75 mm Connection cuff
AC-VFX-HK75CUFF50	Ø 50 mm Connection cuff
Replacement Filters	
AC-VFX- FIL-PRE	Deep Pleat Pre-Filter for VFX-1000
AC-VFX- FIL-HEPA	Combined HEPA/Gas filter for VFX-1000
AC-VFX- FIL-GAS	Deep Bed Gas Filter for VFX-1000

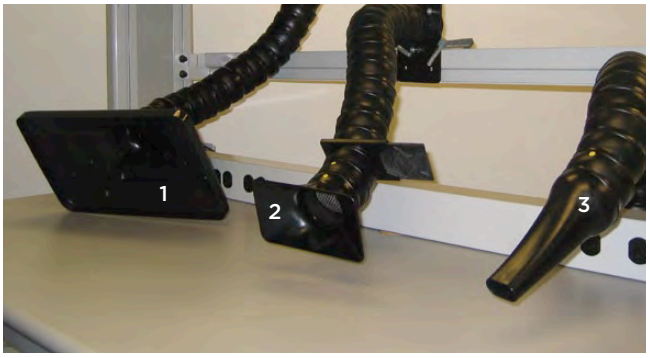
Omniflex Arms

The Omniflex Arms (Ø 63mm) are designed for higher airflow rates and effective fume capture from greater distances. A unique ball/socket design provides an unmatched flexibility in maneuvering 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.

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

Part Number		Description
EA1122	2	Omniflex Arm ESD with Nozzle 150 x 88 mm
EA1124	3	Omniflex Arm ESD with Tapered Nozzle
EA1126	1	Omniflex Arm ESD with Large Hood 350 x 212 mm (14" x 8.5")
Q-AD426530		Replacement nozzle - Rectangular, 150 x 88 mm
Q-AD426550		Replacement nozzle - Tapered
Q-AD426560		Replacement nozzle - Large Hood, 350 x 212 mm (14" x 8.5")
AC1101	4	Damper for Omniflex Arm, Ø 63 mm
AC1102		Omniflex Arm Extensions, Ø 63 mm x 30 cm (12") long

*BVX-200 series is only rated for one EA1122 arm, one EA1126 arm or two EA1124 arms.



BVX Arms

The BVX Arms (Ø 50mm) are the most economical 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.

- 75 m³/h (45cfm) air flow rating
- Ø 50 mm (2") ducting with Ø 40 mm (1.75") nozzle
- 760 mm (30") long
- BVX Arms are ESD safe and compatible with all units

Part Number		Description
BVX-ARM-K1	5	1 BVX-ARM 760 mm (30") long with 1.8 m (6') long hose and table bracket with C-clamps
BVX-ARM-K2		1 BVX-ARM 760 mm (30") long and table bracket with C-clamps
BVX-ARM		Arm flexible ESD safe, 760 mm (30") long
BVX-ARML		Arm flexible ESD safe, 1.5 m (59") long with arm clip
BVX-NOZ1		Replacement ESD nozzle, Ø 40 mm
Connection Hoses for Omniflex and BVX Arms		
CH0251	6	Connection Hose, Length 2.5 m x Ø 63 mm (8' x 2.5") with clamps
CH0252	6	Connection Hose, Length 3.5 m x Ø 63 mm (12' x 2.5") with clamps
CH0253	6	Connection Hose, Length 7.5 m x Ø 63 mm (25' x 2.5") with clamps
AC2025	7	Y-Piece for Ø 63 mm (2.5") hose with clamps

Fluid Dispensing

Ease-of-use meets repeatability, with Metcal fluid dispensing solutions

Accurately and consistently dispense low, medium, and high viscosity fluids with a diverse line of digital dispensers, dispensing tips, manual syringe guns, foot valve dispensers, consumables, and accessories to meet your every need.

DX-250
Digital Dispenser

DX-350
Digital Dispenser

Dispensing Tips

Dispensing Consumables

Accessories & More

Fluid Dispensing
DX-350 & DX-250 Systems

The DX-250 Series
is a high performance Digital Dispenser.

Complete with a range of accessories, the micro-air dispensing system unites affordability with high accuracy and repeatability for exceptional results.

These user friendly fluid dispensing systems include a digital timer with a rotary control time knob for easy setup and a vacuum suck-back to control material "tailing and a waste of low viscosity fluids.

Part No.	Description
DX-250	Digital Dispenser 0 to 100 psi (0 to 6.9 bar)
DX-255	Digital Dispenser 0 to 15 psi (0 to 1.0 bar)

The DX-350 Series
is a microprocessor-driven and fully Digital Dispenser.

Intuitive to use, the DX-350 dispenses low, medium and high-viscosity fluids accurately and consistently. The firmware provides the option of programming up to 10 varied, sequenced or individual shots.

The DX-350 includes an adjustable vacuum-driven "suck-back" to control material "tailing" and a waste of low viscosity fluids.

Part No.	Description
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)

System Specification	DX-250/255	DX-350/355
Power Supply AC/DC	100 - 240 VAC, 50/60 Hz	100 - 240 VAC, 50/60 Hz
Operating Pressure	DX-250 - 0 - 6.9 bar (0 - 100 psi) DX-255 - 0 - 1 bar (0 - 15 psi)	DX-250 - 0 - 6.9 bar (0 - 100 psi) DX-255 - 0 - 1 bar (0 - 15 psi)
Cycle Rate	600 cycle/minute	1200 cycle/minute
Timing Range	0.020 - 60 seconds	0.008 - 60 seconds
Vacuum Suck-Back Control	steplessly variable	steplessly variable
Timing Tolerances	+/- 0.001 %	+/- 0.001 %
Cycle Mode	TIMED, PURGE	TIMED, PURGE, INTERRUPT, TEACH
Memories	N/A	10 programmable
I/O Interface	Initiated by voltage or contact closure	Initiated by voltage or contact closure
Certification	CE, TUV-GS, NRTL	CE, TUV-GS, NRTL
Dimensions (W x D x H)	152 x 165 x 178 mm (6" x 6.5" x 7")	152 x 165 x 1787 mm (6" x 6.5" x 7")
Weight	1.2 kg (2.6 lb)	1.2 kg (2.6 lb)
Warranty	1 year	1 year

DX-250/255
Key Features & Benefits

- Small footprint and lightweight
- Economical dispenser
- Highly accurate and repeatable micro-air dispensing
- Digital timer and vacuum controls
- Available in two versions of operating pressure: 0 to 100 psi for general applications, and 0 to 15 psi for specific low viscosity applications
- Packaged ready to use with: universal power supply, foot switch, air hose, sample tips, syringe barrels & adapter
- I/O Interface for robotic applications

DX-350/355
Key Features & Benefits

- Small footprint and lightweight
- 10 programmable dispense routines and 4 operating modes
- Digital timer, pressure and vacuum read-outs
- Accurate reproduction of sequences of beads or dots
- Adjustable vacuum suck back feature for controlling drips of fluid between dispense cycles
- Available in two versions of operating pressure: 0 to 100 psi for general applications, and 0 to 15 psi for specific low viscosity applications
- Packaged ready to use with: universal power supply, foot switch, air hose, sample tips, syringe barrels & adapter
- I/O Interface for robotic applications

TE Tips Series

- Stainless-steel cannula with a double Helix polypropylene hub
- Burr-free and electro-polished cannula for unobstructed and consistent material flow
- Silicone and chloride free
- Sold in packs of 50

Gauge	1/4" (6.35 mm)	1/2" (12.7 mm)	1" (25.4 mm)	1-1/2" (38.1 mm)
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			
34	934025-TE			

TE Bent Tip Series

- Precision bent tips at 45° and 90° angles
- Perfect for dispensing fluid in hard to reach places
- Sold in packs of 50

Length	1/2" (12.7mm)		1-1/2" (38.1mm)
Gauge	90°	45°	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	

Color Coding and Gauge For TE Series and TE Bent Tips			
Gauge	Colour	I.D. (inches)	I.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
34	Lime Green	0.0037	0.095

Brush Tips

- Stainless-steel cannula with a double Helix polypropylene hub
- Burr-free and electro-polished cannula for unobstructed and consistent material flow
- Silicone and chloride free
- Sold in packs of 12

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

Flexible Plastic Tips

- Flexible tips allow access to hard to reach areas
- 38 mm (1-1/2") length. The length can also be customized
- Ideal for CA applications
- Both hub and cannula are made from polypropylene
- 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

Tapered Series Tips

- Tapered tip prevents blockage and increase flow of high viscosity filled materials. Length 31.7 mm
- Standard tips molded in high density polyethylene with UV light block additive
- Rigid Tips in opaque color – Provides total protection from premature curing by UV/visible light
- Sold in packs of 50

Gauge	Colour	Standard Tips	Rigid Tips
14	Olive	914125-DHUV	914125-RIGID
16	Grey	916125-DHUV	916125-RIGID
18	Green	918125-DHUV	918125-RIGID
20	Pink	920125-DHUV	920125-RIGID
22	Blue	922125-DHUV	922125-RIGID
25	Red	925125-DHUV	925125-RIGID
27	Clear	927125-DHUV	927125-RIGID

Dispensing Tip Kit

- Kit contains a selection of most popular TE, TE Bent and TT tips

900-NK	Dispensing Tip Kit

End Caps

- Designed to seal large end of the syringe barrel
- Ensure no contaminants come in contact with material during storage
- Made from polyethylene
- Available in packs of 50

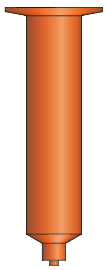
Size	End Cap
3 cc	903-ECB
5 cc	905-ECB
10 cc	910-ECB
30/55 cc	93055-ECB

Air Powered Pistons

- Wiper Pistons provide a seal for low to medium viscosity fluids
- Straight Wall Pistons for reduced stringing with medium to high viscosity fluids
- Made from polyethylene
- Sold in packs of 50

900 Series Color	Piston Type	Application Examples
Blue	Easy Flow	Anaerobic, epoxy, flux, SMA, oil, silicone, UV
White	Wiper	Any fluid used on a mechanical rod/gun including UV
Red	Straight Wall	SMA,Solder paste, viscous grease

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



Syringe Barrels

- Unique ultra-low draft of inner diameter yield high accuracy and stability
- Industry compliant silicone / chloride free, low friction polypropylene
- 3 colors: Natural for most generic applications, Amber for protection of UV/visible light block (up to 520nm), Black for total light block
- Sold in packs of 50

Size	Natural	Dark Amber	Black
3 cc	903-N	903-D	903-B
5 cc	905-N	905-D	905-B
10 cc	910-N	910-D	910-B
30 cc	930-N	930-D	930-B
55 cc	955-N	955-D	955-B

Tip Cap

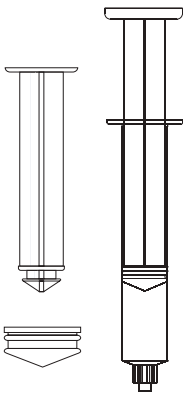
- Use to seal syringe barrel when not in use
- Fits all syringe sizes
- Blue stand up tip cap enables the syringe barrel to stand upright
- Made from polypropylene
- Sold in packs of 50

Part Number	Description
900-ORTC	Tip Care Double Helix Thread (Orange)
900-BTC	Tip Care Double Helix Thread (Black)
900-STC	Stand-up Tip Cap (Blue)

Syringe Assembly Kits

- Packaged together in ready-to-use kits of 50 each (syringe and Wiper Piston, without piston inserted)

Size	Natural with white piston	Natural with blue piston
3 cc	903-NW	903-NBL
5 cc	905-NW	905-NBL
10 cc	910-NW	910-NBL
30 cc	930-NW	930-NBL
55 cc	955-NW	955-NBL



Plunger and Piston for Syringe Barrels

- Provide simple and quick dispensing solutions without the need for compressed air
- Molded from Polypropylene resin, manual plungers
- Compatible with a wide range of dispensing fluids
- Pistons are made from thermoplastic rubber
- Available dry or with lubrication
- Sold in packs of 50

Part Number	Description
903-PL	Plunger - 3 cc
903-PRD	Manual Piston Rubber - 3 cc
903-PRL	Manual Piston Rubber - Lub 3 cc
905-PL	Plunger - 5 cc
905-PRD	Manual Piston Rubber - 5 cc
905-PRL	Manual Piston Rubber - Lub 5 cc
910-PL	Plunger 10 cc
910-PRD	Manual Piston Rubber 10 cc
910-PRL	Manual Piston Rubber Lub 10 cc

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	Plunger Rod
10 cc	910-MSG	71000ROD
30 cc	930-MSG	73000ROD
55 cc	955-MSG	75500ROD-C

Receiver Head Assembly

- Connecting link between time/pressure controllers & Syringe assemblies
- Provides a safe connection for accident proof dispensing
- Available with 0.9 m (3') and 1.8 m (6') length of tubing
- Includes: receiver head with O-ring, tubing and male quick connector
- Receiver heads are made of Delrin®
- Sold individually

Size	0.9 m (3') Hose	1.8 m (6') Hose
3 cc	903-3RHB	903-6RHB
5 cc	905-3RHB	905-6RHB
10 cc	910-3RHB	910-6RHB
30/55 cc	93055-3RHB	93055-6RHB

Finger Switch Assembly

- Use with Metcal dispensers and syringes in place of a foot pedal
- Provides control at your finger tip

DX9010	Finger Switch assembly for DX-350/-355 Dispenser

Vacuum Pencil

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

TS8120	Vacuum pick-up assembly

Syringe Holder

- Use for 3 - 55 cc Syringes

SH-300	Syringe Holder

Replacement O-rings for Receiver Head

Size	EPR O-ring	VITON O-ring
3 cc	P3015EPK	P3019VPK
5 cc	P3016EPK	P3020VPK
10 cc	P3017EPK	P3021VPK
30/55 cc	P3018EPK	P3022VPK

(Sold in Pack of 10)

The 924-DFV Series

Foot Valve Dispenser offers increased production combined with dispenser economy. Floor mounted, they have a built in pressure regulator, pressure gauge and a unique fast-dump, three-way air valve. Output rate and shot size are operator controlled.

The 924-DFV is the ideal basic dispensing unit for most general applications of adhesives, sealants, coatings and compounds.

The 924-DFV-VAC features a vacuum suck-back to prevent very thin materials from dripping to reduce tailing or stringing with thicker materials.

System Specification	924-DFV / - VAC
Operating Pressure	0 - 6.9 bar (0 - 100 psi)
Cycle Rate	Manual
Vacuum Suck-Back Control	924-DFV - N/A
	924-DFV-VAC - steplessly variable
Vacuum Force	Up to 15 of HG (924-DFV-VAC only)
Size (W x D x H)	124 x 206 x 121 mm (8.1" x 4.9" x 4.7")
Weight	1.8 kg (4 lb)
Warranty	1 year

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A DOVER™ COMPANY

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BRO-MET-22

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EN - For pricing and availability in your local country please visit one of the below links:

DE - Informationen zu Preisen und Verfügbarkeit in Ihrem Land erhalten Sie über die unten aufgeführten Links:

FR - Pour connaître les tarifs et la disponibilité dans votre pays, cliquez sur l'un des liens suivants:

DSC-7CN0008A. DSC-7CN0013A. DSC-7CN0015S. HCT-900-21 GT90-HP-T4

GT6-CH0014S DS03-930 HW-UW-2426

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Cette fiche technique est présentée par le fabricant