



Advanced Benchtop Solutions

Soldering, Desoldering, & Rework | Fume Extraction | Fluid Dispensing

Driving
the
of **Evolution**
the **Benchtop**



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 CV-IOT Gateway, 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

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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 handpiece. CV technology marks a significant advancement in hand soldering process control.

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

The GT Series is 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 stations are high-performance single-iron units 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 featuring patented Connection Validation™ IMC formation technology, and SmartHeat® power-on-demand. (See pages 8-10)

MFR Series

Multi-Function Rework 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 handpieces for most applications. (See pages 29-32)

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)

PS-900

Production Soldering System



The PS-900 provides power and exceptional SmartHeat® thermal control in a small benchtop footprint. This durable station is perfect on the production line. (See page 33)

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.



| Specifications | 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 | |
| Handpiece | | |
| Handpiece connector | 8-pin circular DIN | |
| Handpiece 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 settings 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



Hand Soldering, Desoldering, & Rework

GT Tips & Cartridges



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 Handpiece Configuration



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

T4 Handpiece Configuration



Compact handpiece design allows use for low and medium thermal demand applications.

GT-HC-T6
T6 Heater Cartridge



GT-RT-T6
T6 Retainer



GT-RT-C
Cartridge Retainer



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 includes a brasswool 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 |
| Handpiece 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 Handpiece | GT-HP-T4UF |
| T6 Handpiece | GT-HP-T6C |
| T4 Handpiece w/ Heater | GT-HPHC-T4UF |
| T6 Handpiece w/ Heater | GT-HPHC-T6UF |

Hand Soldering, Desoldering, & Rework

GT Tips & Cartridges



| 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

Hand Soldering, Desoldering, & Rework

GT Tips & Cartridges



| 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™ (CV) Soldering Systems. The CV-5200 series features the patented Connection Validation™ IMC formation technology along with SmartHeat® power-on-demand technology 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 handpiece and Ultrafine tweezer handpiece (each sold separately).

CV System Configuration

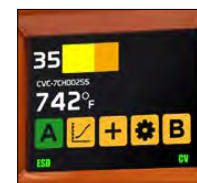
| Part Number | Description |
|-----------------------------|--|
| CV-5210 | Soldering System with CV-PS5200 Power Supply |
| CV-510 | Soldering System with CV-PS500 Power Supply |
| Both Systems include | |
| CV-H1-AV | Advanced handpiece for CV with LED light |
| CV-W1AV | TipSaver Work stand |
| CV-CP1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

| Technical Specifications | CV-PS5200 | CV-PS500 |
|----------------------------------|---|--|
| 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.



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



Tip temperature displayed on large color screen.

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 upgrades
- 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™

Handpieces and Upgrade Kits

Metcal offers eight different handpieces and upgrade kits for the Connection Validation™ Soldering System. These ergonomic handpieces transform the CV systems into a complete soldering solution for a wide variety of applications.

Advanced Handpiece

The Advanced Handpiece 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 Handpiece for CV with LED Light |
| CV-UK1 | Upgrade Kit, Advanced Handpiece and Work-stand |

UltraFine Handpiece & UltraFine Tweezer Handpiece

Metcal's UltraFine handpieces 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 handpiece is compatible with 600 and 700 series temperature UFC cartridges
- The UltraFine Tweezer handpiece is compatible with 600 and 700 series temperature UFT cartridges

See page 24-25 for popular cartridges

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

Precision Tweezer Handpiece

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

- Adjustable tip alignment for both height and rotation ensures coplanarity 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 Handpiece for CV System |
| CV-UK4 | Upgrade Kit, Tweezer Handpiece and Work-stand |

Desolder Handpiece

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 handpiece 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 Handpiece for CV System with Airline Kit and Accessories |
| CV-H5-DSHP | Desolder Handpiece only |
| CV-UK5 | Upgrade Kit, Desolder Handpiece and Work-stand |

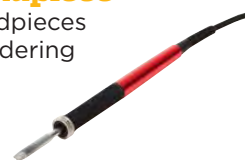
High Thermal Demand Handpiece

Metcal's High Thermal Demand handpieces 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 Handpiece for CV System |
| CV-UK6 | Upgrade Kit, High Thermal Demand Handpiece and Workstand |



Connection Validation™ (CV) Solder Wire Feeder Handpieces

Metcal's Solder Wire Feeder System adds control and convenience to your soldering process. The digital controls, high performance, and ability to handle multiple solder wire diameters provide repeatability and functionality to your process. Two handpieces are 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 Handpiece for CV System |
| CV-UK7 | Upgrade Kit, Solder Wire Feeder Advanced Handpiece, Workstand and Solder Wire Feeder Unit |
| CV-H7-HTD | High Thermal Demand Handpiece for CV Solder Wire Feeder System |
| CV-UK7-HTD | Upgrade Kit, Solder Wire Feeder HTD Handpiece, Workstand and Solder Wire Feeder Unit |

The Next Generation of Connection Validation™ Technology is Here



The latest CV firmware update brings new and improved CV modes, cartridge optimization capabilities, enhanced traceability, improved solder joint reliability, and more.



Production Mode (PCV)



Timed Mode



Cartridge Optimization



Allowed Cartridge List



Tip Wipe Reminder



Operator Passcodes

Go to Metcal.com/Resources and search "CV Firmware" to download today.

www.metcal.com



The CV-IOT Gateway Module with Connection Validation™ systems enables you to monitor and capture data at every station on your network, for maximum productivity and process control.

Key Features & Benefits

- **Capture Soldering Data** on every joint made on a connected system, anywhere on your network
- **Dynamic and Static Reports** generated locally or anywhere in the world
- **Intuitive Dashboard** enables you to view solder events, tip life, production floor updates, stations are on/off, ground fault events, and total solder joints by station
- **Download detailed data** to a CSV file to evaluate and create queries:
 - Identify which tips are being used at each station
 - Track the soldering process through automatic evaluation of each joint, to ensure processes are being followed
 - Understand productivity dips and spikes
 - Set up email alerts for cartridge changes and ESD events
 - Add an optional barcode scanner (not included) for board-level traceability
 - Find the root cause of faulty joints faster by analyzing data never before available
 - Analyze valuable metrics on the processes at the bench. Drill down to the board level

| Part No. | Description |
|-------------|--|
| CV-IOT | CV-IOT Gateway module, cables, splitter, charger, intro guide with software link |
| CV-5210-IOT | CV-5210 Soldering System + CV-IOT (everything listed above) |

| CV-IOT Module Specifications | | |
|------------------------------|------------------------------------|-------------------------------|
| Dimensions | 70 mm x 55 mm | |
| PCB Layer | 8-layer | |
| Power Supply | 5 V/1 A | |
| Power Consumption | 5 V/0.25 A | |
| Working Temperature | UK/EU -40 °C ~ 85 °C | NORTH AMERICA 0 °C ~ 70 °C |
| Target Applications | Industry 4.0 | IoT |
| CPU | MCIMX6 | |
| DDR3 | 256 MB (Support up to 2 GB) | |
| NAND Flash | 256 MB (Support 512 MB/1 GB) | |
| Ethernet | 1 x 10/100 Mbps | |
| USB | 1 x USB Host, 1 x Micro USB Device | |

SYSTEM REQUIREMENTS:

- Windows 10
- Intel® Core™ i5 CPU or better
- 2 GB of system memory/RAM
- Intel® HD Graphics
- At least 150 GB of storage
- Ethernet 10/100



The MX-5200 Soldering, Desoldering, & Rework Series

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

For two users or a single user with dual applications.

The MX-5200 can be operated with two handpieces dynamically sharing the 80 watts output power based on demand, adding even more application flexibility and speed.

Fast time-to-recovery.

Delivers increased production rates and throughput no matter the application. The challenges of high-mass components, multilayered boards, and lead-free solders are seamlessly tackled by the MX-5200 super-charged power supply.



SmartHeat® process control.

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

TipSaver™ Work stand improves Tip Life

as well as operator ergonomics. The “Auto-Sleep” function reduces the power to the handpiece 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 Handpieces. The aluminium handpieces for soldering and rework provide a cooler, lighter weight and more comfortable feel for the operator. And, the Metcal UltraFine™ Handpiece features a new generation of extremely fine-diameter cartridges in a slim-profiled handle. Both of these handpieces 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 shutting 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 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 | Handpieces | | | | Tip Saver™ Workstands | | |
|-------------|--------------|------------|-----------|---------|---------|-----------------------|----------|----------|
| | 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 handpiece descriptions on page 13

Hand Soldering, Desoldering, & Rework MX-500 Systems



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 preset 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 | Handpieces | | | | | Tip Saver Workstands | | | |
|-------------|--------------|------------|-----------|-----------|---------|---------|----------------------|----------|----------|----------|
| | 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 handpiece descriptions on page 14

| Technical Specifications | MX-PS5200 | MX-500P |
|-----------------------------|---|--|
| 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 displays 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, handpieces and accessories.

MX Series

Handpieces and Upgrade Kits

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

Advanced Handpiece

The Advanced MX handpiece 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 Handpiece for MX Systems |
| MX-W1AV | Tip Saver Workstand for Advanced Handpiece |
| MX-UK1 | Upgrade Kit, includes Advanced handpiece and Workstand |

UltraFine Handpiece

The Ultrafine handpiece 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 Handpiece for MX Systems |
| MX-W1AV | Tip Saver Workstand for Ultrafine Handpiece |
| MX-UK2 | Upgrade Kit, includes Ultrafine handpiece and Workstand |

MX-RM3E Handpiece

The MX-RM3E is an economical handpiece 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 Handpiece for MX Systems |
| WS1 | Tip Saver Workstand for MX-RM3E Handpiece |

Precision Tweezer Handpiece

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 Handpiece for MX Systems |
| MX-W4PT | Tip Saver Work-stand for Precision Tweezer Handpiece |
| MX-UK4 | Upgrade Kit, includes Precision Tweezer Hand-piece and Work-stand |

Desolder Handpiece

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

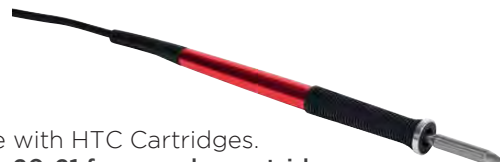


- For use with STDC Cartridges. See page 27 for popular cartridges

| Part Number | Description |
|-------------|--|
| MX-DS1 | Desolder Handpiece for MX Systems |
| MX-W5DS | Tip Saver Workstand for Desolder Handpiece |
| MX-UK5 | Upgrade Kit, includes Desolder Handpiece and Workstand |

High Thermal Demand Handpiece

The High Thermal Demand (HTD) handpiece 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 Handpiece for MX Systems |
| MX-W1AV | Tip Saver Workstand for HTD Handpiece |
| MX-UK6 | Upgrade Kit, includes HTD handpiece 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 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 Handpiece, Feeder Tube Assembly, Teflon Nozzle, Footswitch and Workstand |
| MX-UK7 | Solder Wire Feeder Upgrade Kit for MX Series |
| Includes | Solder Feeder Assembly, Solder Feeder Handpiece, Feeder Tube Assembly, Teflon Nozzle, Footswitch and Workstand |

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 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 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 performance

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 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 up minimal space.
- **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 PCBAs, these are the products that turn your MX or CV system into a versatile workhorse.



CV Handpieces and Accessories

| | | |
|------------|---|--|
| CV-H1-AV | | Advanced Handpiece for CV System with LED |
| CV-H2-UF | | Ultrafine Handpiece for CV System |
| CV-H4-PTZ | | Precision Tweezer Handpiece for CV System |
| CV-H4-UFT | | Ultrafine Tweezer Handpiece for CV System |
| CV-H5-DS | 3 | Desoldering Handpiece for CV System with Cord and Airline Kit |
| CV-H5-DSHP | | Desolder Handpiece Only |
| CV-RM8E | | Desoldering Handpiece Cord for CV-H5-DS |
| CV-H6-HTD | | High Thermal Demand Handpiece for CV System |
| CV-H7-AV | | Advanced Solder Wire Feeder Handpiece for CV System |
| CV-H7-HTD | | High Thermal Demand Solder Wire Feeder Handpiece for CV System |

CV Workstands

| | | |
|---------|--|---|
| CV-W1AV | | Standard Workstand for Advanced, Ultrafine and High Thermal Demand Handpieces |
| CV-W4PT | | Workstand for Ultrafine Tweezer Handpiece |
| CV-W5DS | | Workstand for Desoldering Handpiece |

CV Upgrade Kits

| | | |
|------------|---|---|
| CV-UK1 | 2 | Advanced Handpiece and Tip Saver Workstand for CV System |
| CV-UK2 | | Ultrafine Handpiece and Tip Saver Workstand for CV System |
| CV-UK4 | | Precision Tweezer Handpiece and Tip Saver Workstand for CV System |
| CV-UK4-UFT | 4 | Ultrafine Tweezer Handpiece and Tip Saver Workstand for CV System |
| CV-UK5 | | Desolder Handpiece and Tip Saver Workstand for CV System |
| CV-UK6 | 1 | High Thermal Demand Handpiece and Tip Saver Workstand for CV System |
| CV-UK7 | | Solder Wire Feeder Handpiece 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 |



CV and MX Accessories for Desoldering Handpieces

| CV System | MX System | Description |
|-----------|-----------|---|
| CV-DAH4 | MX-DAH4 | ESD Air Hose for desoldering Handpiece |
| 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) |

Hand Soldering, Desoldering, & Rework

CV & MX Accessories



MX Handpieces and Accessories

| Part Number | | Description |
|-------------|----|--|
| MX-H1-AV | 1 | Advanced Handpiece for MX System |
| MX-H2-UF | 2 | Ultrafine Handpiece for MX System |
| MX-PTZ | | Precision Tweezer Handpiece for MX System |
| MX-DS1 | 13 | Desoldering Handpiece for MX System |
| MX-H6-HTD | | High Thermal Demand Handpiece for MX System |
| MX-H7-SF | | Advanced Solder Wire Feeder Handpiece for MX System |
| MX-HPDC | | Dual Cartridge Handpiece for MX System |
| MX-RM3E | | Standard Soldering/Rework Handpiece |
| MX-RM5E | | Standard Robotic Cable, 1-Piece, 183 mm |
| MX-RM6E | | Soldering/Rework Handpiece for Long Reach Cartridge Access |
| MX-RM8E | | Desoldering Handpiece Cord for MX-DS1 |

Sleeves and Grips for MX Advanced and Ultrafine Handpieces

| | | |
|-------------|----|---|
| 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 Handpieces |
| MX-W1CR | | Cradle for Advanced Workstand |
| MX-W4PT | 4 | Workstand for Tweezer Handpiece |
| MX-W4CR | | Cradle for Tweezer Workstand |
| MX-W5DS | | Workstand for Desolder Handpiece |
| MX-W5CR | | Cradle for Desolder Workstand |
| MX-WHPDC | | Workstand for Dual Cartridge Handpiece |
| WS1 | | Workstand for MX-RM3E Handpiece, 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) |
| AC-TC | | Desolder Tip Cleaner |
| AC-TC-P | | Desolder Tip Cleaner (12 Pack) |
| MX-DAH4 | | ESD Air Hose, U.S. Standard Fitting |
| MX-PC1 | | Power Cord |
| 5100-0073 | | On/Off Switch replacement |

MX Upgrade Kits

| | | |
|--------|----|---|
| MX-UK1 | 14 | Advanced Handpiece for MX and Workstand |
| MX-UK2 | | Ultrafine Handpiece for MX and Workstand |
| MX-UK3 | | Dual Cartridge Handpiece for MX and Workstand |
| MX-UK4 | | Precision Tweezer Handpiece for MX and Workstand |
| MX-UK5 | | Desolder Handpiece for MX with Cord, Air line Kit and Workstand |
| MX-UK6 | 6 | High Thermal Demand Handpiece 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 Handpiece and a workstand.



Hand Soldering, Desoldering, & Rework

CVC & STTC Cartridges



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 Handpieces: MX-RM3E, MX-RM6E, MX-H1AV, MX-H7-SF, CV-H1-AV, CV-H7-AV | | Systems: MX-500, MX-5000, MX-5200 Handpieces: 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 | STTC-146 | |
| | 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 | |

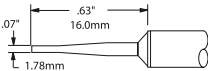
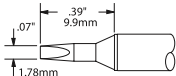
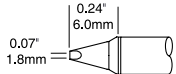
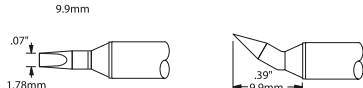
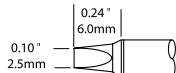
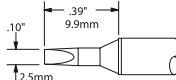
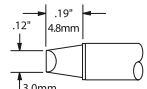
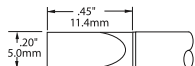
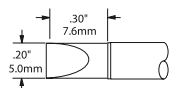
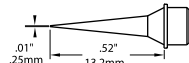
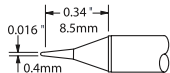
For our complete selection of tips & cartridges, visit www.metcal.com



Hand Soldering, Desoldering, & Rework

CVC & STTC Cartridges



| 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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Hand Soldering, Desoldering, & Rework

CVC & STTC Cartridges



| 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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Hand Soldering, Desoldering, & Rework

HCV & HTC Cartridges



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

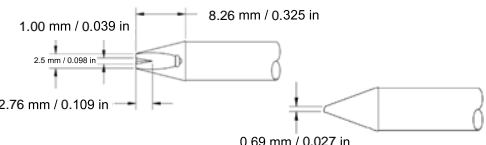
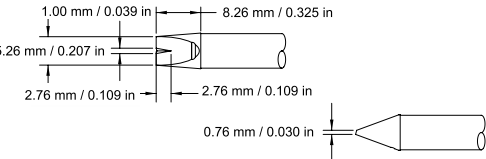
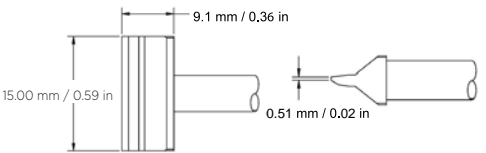
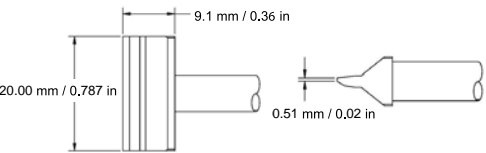
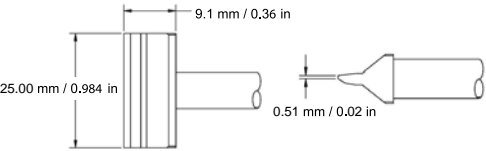
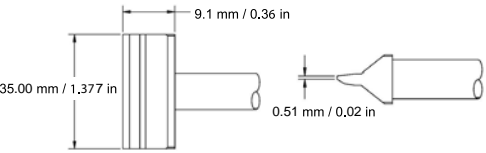
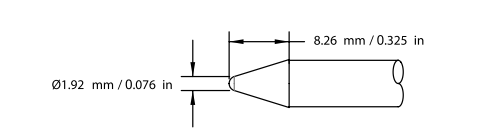
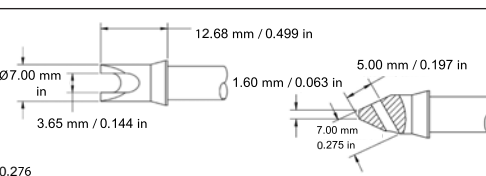
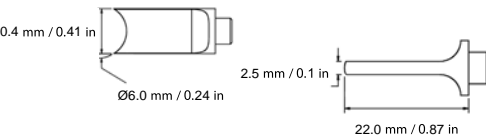
| | | | |
|--|---------------|--------------|--------------------------------|
| | HCV-7CH0015S | N/A | Chisel, (W x L) 1.47 x 10.4 mm |
| | HCV-8CH0015S | | |
| | HCV-9CH0015S | | |
| | HCV-7CH0018S | N/A | Chisel, (W x L) 1.85 x 10 mm |
| | HCV-8CH0018S | | |
| | HCV-9CH0018S | | |
| | HCV-7CH0025S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

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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, ø 2.5 mm, by 2.5 mm (W) |
| | HCV-8BR0010S | | |
| | HCV-9BR0010S | | |

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Hand Soldering, Desoldering, & Rework

SMC & SMTC Rework Cartridges



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-HI-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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Hand Soldering, Desoldering, & Rework

SMC & SMTC Rework Cartridges



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 com- ponents, 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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Hand Soldering, Desoldering, & Rework

UFC & UFTC Ultra Fine Cartridges



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 microscope, (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 microscope, 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

Hand Soldering, Desoldering, & Rework

UFT Ultra Fine Tweezer Cartridges



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 | (W x L) 0.6 x 8.71 mm, sold per pair |
| | UFT-7CH9006S | |
| | UFT-6CH9008S | (W x L) 0.8 x 8.71 mm, sold per pair |
| | UFT-7CH9008S | |

Ultra-Fine Tweezer Cartridge - Conical

| | | |
|--|--------------|--|
| | UFT-6CN5502R | Conical, Bent, for work under a microscope, (ø x L) 0.2 x 5.27 mm, sold per pair |
| | UFT-7CN5502R | |
| | UFT-6CN5504R | Conical, Bent, for work under a microscope, (ø x L) 0.4 x 5.3 mm, sold per pair |
| | UFT-7CN5504R | |
| | UFT-6CN8004S | Conical (ø x L) 0.4 x 8.7 mm, sold per pair |
| | UFT-7CN8004S | |

Ultra-Fine Tweezer Cartridge - Power Wedge

| | | |
|--|--------------|--|
| | UFT-6PW3150S | Power Wedge, two-way use, tip and long side, (ø x L) 0.31 x 4.74 mm, sold per pair |
| | UFT-7PW3150S | |
| | UFT-6PW2954C | Power Wedge, two-way use, tip and long side, (ø x L) 0.29 x 5.15 mm, sold per pair |
| | UFT-7PW2954C | |

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

Hand Soldering, Desoldering, & Rework

PTC & PTTC Cartridges



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 16.5 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

Hand Soldering, Desoldering, & Rework




DSC & STDC Cartridges



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 | Systems: MX-500, MX-5000, MX-5200 | DSC-xxxA / STDC-xxxL = Long Reach Desolder Cartridge to remove components from high density packed PCBs. |
| | Handpieces: MX-DS1, CV-H5-DS | Handpieces: MX-DS1 | |

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 | | A | B | C |
|---|--------------|-----------|---------|----------|----------|---|
|   Standard | 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 | | | | | | |
|  0.400" 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 | | | | |

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

Hand Soldering, Desoldering, & Rework

MFR-2200 & MFR-1100 Systems



The MFR-2200 Series

features dual-output capability allowing users to select operation of one handpiece or two handpieces simultaneously.

The MFR-2200 Systems offer a choice of three handpieces, 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 handpiece. A shop air desoldering option is also available as an upgrade kit. (see pages 30 & 33)



| System Specifications | 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 handpiece use
- Five handpieces available for increased application solutions for soldering, desoldering (upgrade kit) and rework on one system
- Each handpiece has a comprehensive range of cartridges or tips for maximum flexibility
- Ergonomic handpieces for operator safety and comfort

Hand Soldering, Desoldering, & Rework

MFR-2200 & MFR-1100 Accessories



MFR-H1-SC2

Soldering Cartridge Handpiece

MFR-H2-ST2

Soldering Tip Handpiece

MFR-H4-TW

Tweezer Handpiece

MFR-H6-SSC

SSC Cartridge Handpiece



WS1

Universal Soldering Workstand



WS2

Round Soldering Workstand



MFR-WSPT

Tweezer Workstand

MFR-2200 Series

| Part Number | Power Supply | Handpieces | | | Tip Saver Workstands | |
|-------------|--------------|------------|------------|-----------|----------------------|----------|
| | 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 Handpieces and more accessories on page 33

MFR-1100 Series

| Part Number | Power Supply | Handpieces | | | | Tip Saver Workstands | | |
|-------------|--------------|------------|------------|-----------|------------|----------------------|----------|-----|
| | 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 Handpieces and more accessories on page 33

Applicable Soldering Cartridges & Tips (Partial list)

SxP

Soldering Cartridges



SxV

Soldering Tips



SSC

Soldering Cartridges
(Previous SP200 System)



RxP

Rework
Cartridges

Full range on pages 36-37



CxV

Blade Tips

Full range on pages 34-35



TxP

Tweezer Cartridges

Full range on pages 38-39



Accessories

MFR-CA3

Coil Assembly for Tip Handpiece
(MFR-H2-ST2)

WS1G

Auto-sleep Workstand, Green

MFR-PM70

Power Meter

AC-CP2

Cartridge / Tip Removal Pad

AC-BP

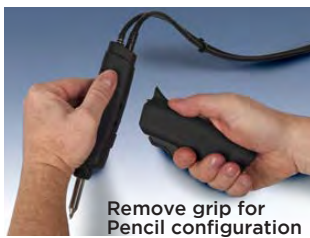
Brass Pad for Workstand (Pack of 10)

The MFR-1150 Desolder System

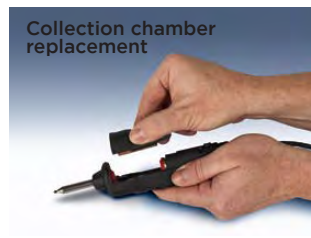
with Venturi Workstand provides a compact and easy shop air option.

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 through-hole 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.



Remove grip for Pencil configuration



Collection chamber replacement

| MFR-H5-DS Desolder Handpiece | |
|--------------------------------|---|
| Solder Handpiece 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 Handpiece |
| MFR-WSDSX | Workstand with venturi box for desolder Handpiece |
| MFR-FTKIT | Fittings and air hose kit |
| AC-TC | Desolder tip cleaner tool |
| AC-CP2 | Cartridge and Tip Removal Pad |



DxP Desoldering Tips



Full range on page 38

Key Features & Benefits

Venturi Workstand

2-in-1 Desolder Handpiece (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)



MFR-UK5 Upgrade Kit
Compatible with all MFR Series Power Supplies

Hand Soldering, Desoldering, & Rework MFR-1350 System



The MFR-1350 Desoldering and Rework System

features an innovative desoldering handpiece 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

RxP

Rework Cartridges

Full range on page 37

DxP

Desoldering Tips

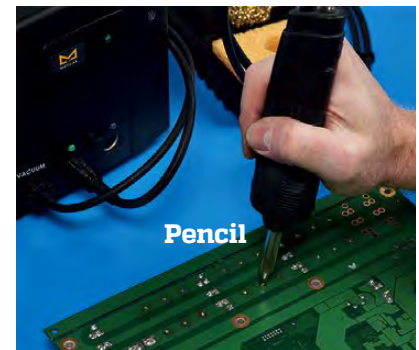
Full range on page 38



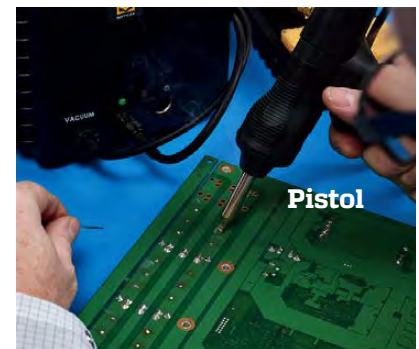
System Specifications - MFR-PS1300

| | |
|-----------------------------|---|
| 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.



Pencil



Pistol

Key Features & Benefits

- Self-contained powerful vacuum pump
- 2-in-1 ergonomic and flexible handpiece
- Recyclable collection chamber with increased capacity
- Quick and easy change collection chamber
- Dual switchable output
- Powered by SmartHeat® Technology
- Compatible with previous MFR De-solder range

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

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 demand STV-DRH440A hoof tip.

Key Features & Benefits

SmartHeat® temperature control

Ergonomic, lightweight handle

Rugged cast aluminum housing

Added Planting 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 Handpiece (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 Handpiece 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 | Handpiece 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



Handpieces 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 Handpiece (PS-900) |
| MFR-H1-SC2 | 3 | Cartridge Solder / Rework Handpiece (MFR) |
| MFR-H2-ST2 | 4 | Tip Solder Handpiece (MFR) |
| MFR-CA3 | | Coil Assembly for MFR-H2-ST2 Handpiece (MFR) |
| MFR-H4-TW | 5 | Precision Tweezer Handpiece (MFR) |
| MFR-H6-SSC | 6 | SSC Cartridge Solder Handpiece (MFR) |
| MFR-H5-DS | 7 | Desolder Handpiece |
| MFR-HSREC | | Cartridge Solder / Rework Handpiece with long cord (1.83 m / 6 ft) |
| MFR-HSRLR | 8 | Cartridge Solder / Rework Handpiece 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 Handpiece |
| MFR-WSDSU | | Non-Sleeper Workstand for Desolder Handpiece |
| 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-1K | | 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) |
| 5100-0044 | | Power switch, push button, replacement, PCB mounting |
| 5100-0067 | | Power switch, rocker, on-off-on, replacement |
| 7074-0570 | | SW cap/power switch |

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 Handpiece |
| MFR-PG | | Replacement Pistol grip for MFR-H5-DS Handpiece |
| 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 Handpiece (MFR-H1-SC2) and Workstand (WS1) |
| MFR-UK2 | | Solder Tip Handpiece (MFR-H2-ST2) and Workstand (WS1) |
| MFR-UK4 | | Tweezer Cartridge Handpiece (MFR-H4-TW) and Workstand (MFR-WSPT) |
| MFR-UK5 | | Desolder Handpiece (MFR-H5-DS) and Workstand (MFR-WSDSX) |
| MFR-UK6 | | Solder Cartridge Handpiece (MFR-H6-SSC) and Workstand (WS2) |
| MFR-H5-DS-C | | Desolder Handpiece (MFR-H5-DS) and Workstand cradle (MFR-WSDSCB) |

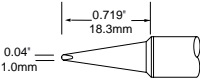
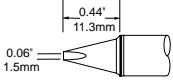
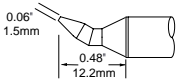
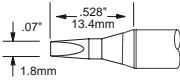
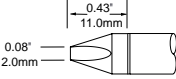
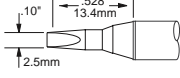
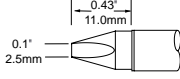
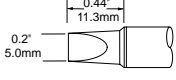
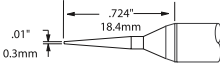
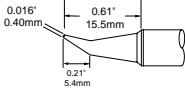
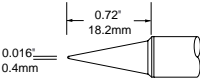
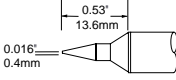
Hand Soldering, Desoldering, & Rework

SxV Soldering Tips



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

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Hand Soldering, Desoldering, & Rework

SxV Soldering Tips & CxV Blade Tips



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 Handpieces, 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 | Conical, (Ø x L), 0.5 x 13.7 mm (.02" x .53") |
| | STV-CN05AR | |
| | SCV-CN05AR | |
| | SFV-CNB05 | Conical, Bent, (Ø x L), 0.5 x 13 mm (.02" x .51") |
| | STV-CNB05 | |
| | SCV-CNB05 | |
| | SFV-CNL10A | Conical, Long Reach, (Ø x L), 1.0 x 18 mm (.04" x .71") |
| | STV-CNL10A | |
| | SCV-CNL10A | |
| | SFV-CNL10AR | Conical, Long Reach, (Ø x L), 1.0 x 13.7 mm (.04" x .54") |
| | STV-CNL10AR | |
| | SCV-CNL10AR | |
| | SFV-CNL10 | Conical, Long Reach, (Ø x L), 1.0 x 13 mm (.04" x .51") |
| | STV-CNL10 | |
| | SCV-CNL10 | |
| | SFV-CNL14 | Conical, Long Reach, (Ø x L), 1.4 x 15 mm (.056" x .59") |
| | STV-CNL14 | |
| | SCV-CNL14 | |
| | SFV-DRH20 | Conical, Bevel, 60° x 2 mm (Ø x L), 1 x 14 mm (.04" x .55") |
| | STV-DRH20 | |
| | SCV-DRH20 | |
| | SFV-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") |
| | STV-WV20 | |
| | SCV-WV20 | |

Rework Knife-Cartridges - For Multi-Lead Soldering of PLCCs/SOJs

| | | |
|--|-----------|---|
| | SFV-DRK50 | Knife, Bevel 45°, (W x L), 5.0 x 14 mm (.20" x .55") |
| | STV-DRK50 | |
| | SCV-DRK50 | |

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") |
| | | | | |

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Hand Soldering, Desoldering, & Rework

SxP Soldering & Rework Cartridges



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 Handpiece. | |
| 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 | | | | |
| | SFP-CH15 | | | | |
| | STP-CH15 | | | | |
| | SCP-CH15 | | | | |
| | SFP-CHB15 | | | | |
| | STP-CHB15 | | | | |
| | SCP-CHB15 | | | | |
| | SFP-CH20 | | | | |
| | STP-CH20 | | | | |
| | SCP-CH20 | | | | |
| | SFP-CH25 | | | | |
| | STP-CH25 | | | | |
| | SCP-CH25 | | | | |
| | SFP-CH30 | | | | |
| | STP-CH30 | | | | |
| | SCP-CH30 | | | | |
| | SFP-CH35 | | | | |
| | STP-CH35 | | | | |
| | SCP-CH35 | | | | |
| | SFP-CH50 | | | | |
| | STP-CH50 | | | | |
| | SCP-CH50 | | | | |
| Conical | | | | | |
| | SFP-CNB04 | | | | |
| | STP-CNB04 | | | | |
| | SCP-CNB04 | | | | |
| | SFP-CNL04 | | | | |
| | STP-CNL04 | | | | |
| | SCP-CNL04 | | | | |
| | SFP-BVL10 | | | | |
| | STP-BVL10 | | | | |
| | SCP-BVL10 | | | | |
| Rework Hoof-Cartridges - For Drag Soldering SOICs/QF | | | | | |
| | SFP-DRH05 | | SFP-DRH35 | | SFP-WV20 |
| | STP-DRH05 | | STP-DRH35 | | STP-WV20 |
| | SCP-DRH05 | | SCP-DRH35 | | 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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Hand Soldering, Desoldering, & Rework

RxP Rework Cartridges



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 Handpiece. 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 | - | - | - |
| | RCP-BL1 | (0.41) | - | - | - |
| | RFP-BL2 | 15.6 | - | - | - |
| | RCP-BL2 | (0.62) | - | - | - |
| | RFP-BL3 | 22.1 | - | - | - |
| | RCP-BL3 | (0.87) | - | - | - |

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

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

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

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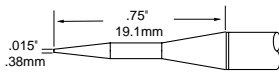
TxP Tweezer & DxP Desoldering Cartridges



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 Handpiece DxP Desoldering Tips compatible with: MFR-1150, MFR-1350, MFR-1351 systems with MFR-H5-DS Handpiece and previous MFR-DSX, -DSI, -SDX, -SDI Systems with MFR-HDS Handpiece. 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



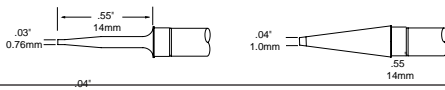
TFP-CNP1

TTP-CNP1

TCP-CNP1

(Ø x L), 0.4 x 19.1 mm (.015" x .75"),
sold per pair

TxP - Rework Tweezer Cartridges - Blade

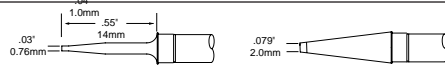


TFP-BLP1

TTP-BLP1

TCP-BLP1

(W x L), 1.0 x 14 mm (.04" x .55"),
sold per pair



TFP-BLP2

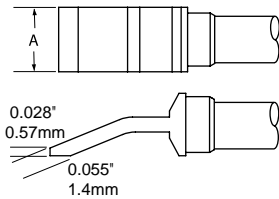
TTP-BLP2

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

TFP-BLH50

TTP-BLH50

TCP-BLH50

6.35 mm (.25"),
sold per pair

TFP-BLH60

TTP-BLH60

TCP-BLH60

TFP-BLH70

TTP-BLH70

TCP-BLH70

16 mm (.62"),
sold per pair

20.5 mm (.81"),
sold per pair

28 mm (1.1"),
sold per pair

All dimensions shown are in mm (inches)

| | DxP - Desoldering Tips | A | B | Type |
|-------------------|------------------------|-------------|-------------|------------|
| <p>Standard</p> | 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 | | | |
| <p>Long Reach</p> | 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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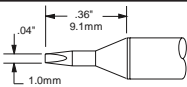
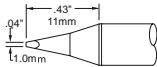
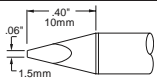
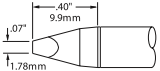
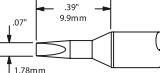
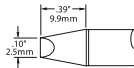
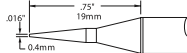
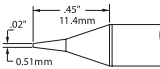
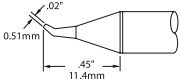
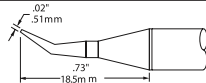
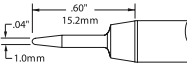

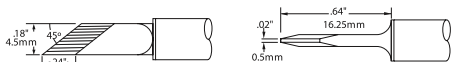
SSC Cartridges



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 Handpieces | |

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 | |

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



Convection Rework

Whatever your convection rework needs are, Metcal has the solution

Offerings for removing and replacing SMT components, reworking pin-hole devices like sockets and connectors, applying shrink wraps, and more.

A range of best-in-class hand-held convection tools, digital hot air pencils, preheaters, tool holders, and complete modular rework systems.

HCT-1000

Programmable Hand-Held Convection Tool



HCT-910

Hot Air Rework System



HCT2-200

Digital Hot Air Pencil



MRS-1100A

Modular Rework System



PCT-1000

Programmable Preheater



PCT-100

Focused Convection Preheater



Convection Rework

HCT-1000 System



The HCT-1000 is a fully Programmable Handheld 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 5 mm diameter nozzle and nozzle adapter. In addition, a wide range of nozzles are available.



System Specifications - 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 | Handpiece with integral vacuum, cord & connector |
| HCTA-VC-KIT | Vacuum Cup kit, one of each *(see Accessories) |
| HCTA-TH1 | Handpiece 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 repeatability and storage for up to 50 user-defined profiles
- Manual mode for quick setup
- External thermocouple for process setup and verification
- Handpiece 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

Convection Rework

HCT-1000 Nozzles & Accessories



HN Series Nozzles

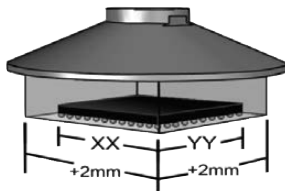
A series of 14 nozzles are available for use with the MRS-1000/HCT-1000. The nozzles fit applications reworking components of all sizes from (including, but not limited to) BGAs, QFPs, LGAs, PLCC, and SOIC. A custom nozzle program is also available.

Nozzle Measurement and Selection

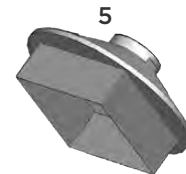
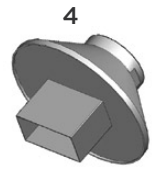
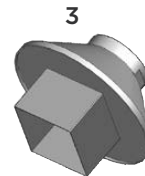
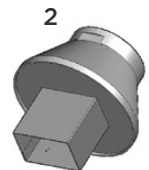
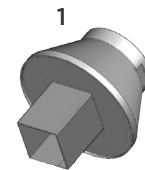
The nozzle part number (the digits after the “B”) represents the size of the component. Two millimeters have been added to each side of the internal nozzle dimension to allow for component access.



HN-BXXYY



| 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 |

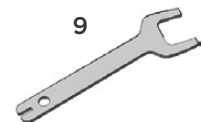


Nozzle Accessories

HNA-1 7
Nozzle Carrier

HCT-NC 8
Nozzle Adapter

HCTA-NW1 9
Nozzle Wrench



HCT-910 Hot Air Rework System

Maximize process control and productivity with the convection system built to ensure ease-of-use and operator safety.

Key Features & Benefits

- **Fast Time-to-Temperature** 900 W of power
- **Fully Adjustable Temperature Range** 50 - 600 °C
- **Unrestricted Airflow** Up to 120 l/m (4.24 cfm)
- **Intuitive User Interface** Easy programming & adjustments
- **"On-the-fly" Manual Mode** Adjust temp & airflow with one dial
- **Tool-less Nozzle Swapping** Compatible with HCT-900 nozzles

| System Specifications | Description |
|--------------------------------------|---|
| Input Voltage | HCT-910-11: 115 V / 60 Hz HCT-910-21: 230 V / 50 Hz |
| Power | 900 W |
| Temperature Range | 50 - 600 °C (122 - 1112 °F) |
| Temperature Accuracy | 30 °C (54 °F) |
| Air Flow | At 300 °C, 5 - 120 l/m (0.2 - 4.2 cfm) |
| Air Pump Type | Blower |
| Hose Length (Panel-Handpiece) | 1.2 m (3.9 ft) |
| Noise | < 46 dB (A) |
| Weight | 2 kg (4.4 lbs) |
| Safety Class | 1 |
| Pollution Degree Category | II |
| Storage Temperature | 0 - 60 °C (32 - 140 °F) |
| Surface Resistivity | Unit: 105ff - 106ff Handpiece & Tube: 107ff - 1011ff |
| Dimensions | 21 x 14 x 14 cm (8.3 x 5.5 x 5.5 in) |
| Certification/Approvals | cTUVus, CE, RoHS |

| Part No. | Description |
|---------------|-----------------------------------|
| HCT-910-11 | 115 V Hot Air Rework System |
| HCT-910-HE-11 | HCT-910 Replacement Heater, 115 V |
| HCT-910-21 | 230 V Hot Air Rework System |
| HCT-910-HE-21 | HCT-910 Replacement Heater, 230 V |

HCT-910 Nozzles

The HCT-910 is supplied with a standard HB-D50 5.0 mm diameter Bayonet Nozzle. In addition, several other configurations are available, taking advantage of the HCT-910 tool-less nozzle system.

| HCT-910 Nozzles | Description |
|-----------------|--|
| HB-D25 | HCT-910 Nozzle, Bayonet, 2.5 mm Ø |
| HB-D50 | HCT-910 Nozzle, Bayonet, 5.0 mm Ø |
| HB-D100 | HCT-910 Nozzle, Bayonet, 10.0 mm Ø |
| HB-D25-B | HCT-910 Bent Nozzle, Bayonet, 2.5 mm Ø |
| HB-D50-B | HCT-910 Bent Nozzle, Bayonet, 5.0 mm Ø |
| HB-ST | HCT-910 Nozzle, Bayonet, Shrink Tube |



The HCT-910 Advanced Handpiece features colored system-status lights for added safety: no light for Stand-by Mode, red light for Heating Mode, and blue light for Cooling Mode.



Convection Rework

HCT-910 Compatible Nozzles



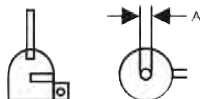
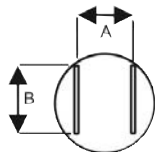
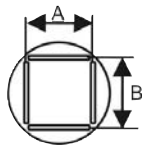
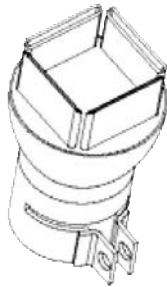
HCT-910 Compatible Nozzles

The HCT-910 is compatible with legacy HCT-900 nozzles. Two rework nozzle kits, predefined for specific applications, are available, as well as a full selection of individual 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

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

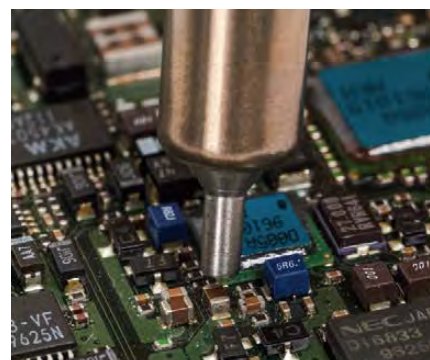
The HCT2-200 was developed for very small surface-mount component and package sizes (1210s and smaller) and low board densities. For denser PCBA's, applications with heavy copper planes, boards with more than four layers, or components larger than 50 mm², use of a Metcal preheater (PCT-100 series) may be necessary.



SOICs



0201s



1210s



Technical Specifications - HCT2-200

| | |
|-----------------------|--|
| 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



Workstand with nozzle holder

Easy-change heater

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 | Handpiece |
| HCT-WS120 | WorkStand with Nozzle Holder |
| HCT-HTR200 | Heater Assembly, 200W |
| HN-120KIT-6 | Pack of six (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 six (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 numeric 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 handpiece is placed into the workstand, the temperature will drop, prolonging heater life.

Replaceable Handpiece

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

Ergonomic and Light Weight Handpiece

Slim and ergonomically designed handpiece 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



Convection Rework PCT-1000 System



The PCT-1000 is a fully Programmable Preheater offering more heat capacity which enables soldering at lower temperatures to produce higher-quality results

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.



System Specifications - 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 including soldering, desoldering and 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 at the heater output or at the board
- High-efficiency vortex heater design maximizes ramp to temperature for increased productivity

Convection Rework

PCT-100 System



The PCT-100 is a focused convection preheater 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.



| System Specifications - 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 |

| 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 |

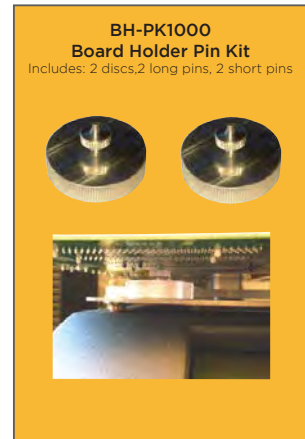
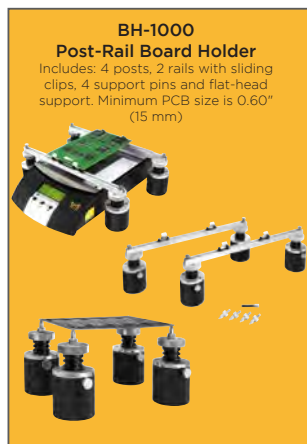
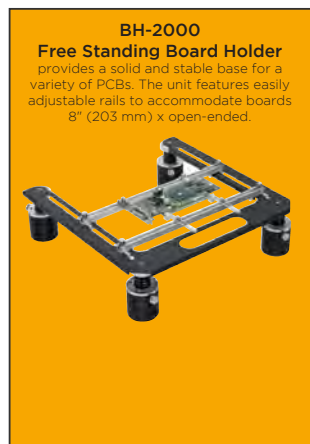


Key Features & Benefits

- 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



The **ATH-1100A** Adjustable Tool Holder is designed to work with the HCT-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 and 30° Θ adjustment.
- Features locking handpiece retainer, Z axis stop and mounting configurations for stand-alone operation or 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
- Digitally 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, like occupational asthma, 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. Smoke absorbers and fume extractors are a simple way to manage the risk to employees and your organization.

MSA-25U
Benchtop Smoke Absorbers



MSA-35L
Benchtop Smoke Absorbers



BVX-100
**Benchtop Single-User
Arm/Plenum System**



BVX-250
**Two-Station
Portable Filter Unit**



BTX-208
**Portable Tip
Extraction Unit**



VFX
**Multi-User
Extraction Unit**



Smoke Absorption

MSA Series Smoke Absorbers



MSA Series Smoke Absorbers

The Metcal MSA-25U and MSA-35L are compact, space-saving smoke absorbers that filter smoke and flux fumes from the workbench.

- Absorb lead-free flux fumes and smoke from soldering
- Compact design allows the units to easily fit on most workstations
- Quiet operation, ESD-complaint
- Fast and easy filter replacement
- One activated carbon filter included

MSA-25U Smoke Absorber

MSA-25U features a versatile USB plug compatible with any 5 V USB power supply, including the Metcal GT soldering systems.

When the USB plug is connected to a Metcal GT soldering system, the smoke absorber will automatically go into sleep mode when the GT unit is in idle, sleep, or standby mode.

| MSA-25U Specifications | Description |
|---------------------------------------|----------------------------------|
| Input Voltage | 5 V |
| Absorption Capacity Vertical Position | 0.8 m ³ /min (27 cfm) |
| Noise level | <-41 dB |
| Related Input Power | 2.5 W |
| Dimensions (mm) | 165 (H) x 159 (W) x 90 (D) |
| Dimensions (inches) | 6.5" (H) x 6.26" (W) x 3.54" (D) |
| Weight | 0.82 lbs. / 0.37 kg |

| Part No. | Description |
|-----------|--|
| MSA-25U | MSA-25U Base Unit, Activated-Carbon Filter, Introduction Guide |
| FM-MSA25U | MSA-25U Replacement Activated-Carbon Filter, Pack of 5 |



MSA-35L Smoke Absorber

The MSA-35L is a versatile, dual-position smoke absorber, able to be used vertically (standing up) or horizontally (laying down). In the vertical position, the airflow is approximately 2 times as efficient.

| | MSA-35L-11 | MSA-35L-22 | MSA-35L-23 | MSA-35L-24 |
|--|-----------------------------------|----------------------|--------------------|------------|
| Power | 25W | 24W | 24W | 24W |
| Absorption Capacity Horizontal Position | 1.1 m³/min (38 cfm) | 0.9 m³/min (32 cfm) | | |
| Absorption Capacity Vertical Position | 0.5 m³/min (18 cfm) | 0.45 m³/min (16 cfm) | | |
| Noise level | <-41 dB - 51dBA | | | |
| Frequency | 60 Hz | 50 Hz | | |
| Voltage | 110 VAC | 220 VAC | 230 VAC | |
| Certifications | TUVus | | CE | UKCA |
| Dimensions (mm) | 217 (H) x 186 (W) x 111 (D) | | | |
| Dimensions (inches) | 8.54" (H) x 7.32" (W) x 4.37" (D) | | | |
| Weight | 0.93 kg. / 2.05 lbs. | | 0.91kg. / 2.0 lbs. | |

| Part No. | Description |
|------------|--|
| MSA-35L-11 | MSA-35L Base Unit (110 V), Activated-Carbon Filter, Introduction Guide |
| MSA-35L-22 | MSA-35L Base Unit (220 V), Activated-Carbon Filter, Introduction Guide |
| MSA-35L-23 | MSA-35L Base Unit (230 V, EU), Activated-Carbon Filter, Introduction Guide |
| MSA-35L-24 | MSA-35L Base Unit (230 V, UK), Activated-Carbon Filter, Introduction Guide |
| FM-MSA35L | MSA-35L Replacement Activated-Carbon Filter, Pack of 5 |



Fume Extraction

BVX-100 Systems



BVX-100 Benchtop Single- User Arm/Plenum System



- Quiet operation
- 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 vapors
- Two filtration configurations: heavy soldering & light dust, or light duty organic solvent & adhesive applications
- Bi-colored LED light indicates when the filters are blocked and require replacing

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

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 a simple, flexible, low-cost solution and fast installations



Filters are easy to remove and replace

System Specifications - 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') |

Fume Extraction

BVX-250 Systems



BVX-250 Two-Station Fume Extraction System

for the removal of workplace fumes, smoke, dust, and vapors.

Key Features & Benefits

- **Completely portable, versatile, and quiet** Designed for under-bench or benchtop use
- **HEPA efficiency of 99.97%** at 0.3 micron, and an activated carbon filter to remove gases
- **Easy & Fast Filter Changes** without having to remove any hoses from the unit
- **Plug-and-play ducting system** for a simple, flexible, low-cost solution and fast installs
 - Powerful airflow and suction capacity
 - Low-profile, compact unit fits under most work benches
 - Communicates with Metcal CV and GT soldering systems for filter change notification and smart run-time functionality
 - Three airflow options (High, Medium, & Low)
 - Light-weight, portable, and quiet design
 - Color LED indicator for filter block notification
 - HEPA Efficiency at 99.97%
 - Optional Deep Bed Gas Filter (sold separately)
 - Connects to 50 mm (2") or 63 mm (2.5") hoses or exhaust arms
 - 360° rotating air diverter - adjust the exhaust direction for operator comfort
 - On/Off switch with "soft-start" feature
 - ESD-safe housing
 - UL & CSA, UKCA, KC, PSE, NOM, CE (ISO-14644)
 - ROHS/REACH



| Specifications | Description |
|----------------------------|-----------------------------------|
| Max. airflow, free blowing | 297 m ³ /h (175 cfm) |
| Flow rate | 2 x 75 m ³ /h (45 cfm) |
| Static pressure | 1743 Pa (7" WC) |
| Noise level (approx.) | < 55 dBA (at medium setting) |
| Voltage | 100 - 240 VAC, 1 phase |
| Frequency | 50/60 Hz |
| Power (piece) | 150 Watts |
| Safety compliance | UL, CSA, CE |
| Power Dimensions W/D/H mm | 268 x 400 x 320 |
| Power Dimensions W/D/H in | 10.5" x 16" x 13" |
| Weight (approx.) | 12 lbs. / 5.5 kg |



| Part Numbers | Systems |
|--------------|---|
| BVX-250 | Unit, Pre-Filter, and HEPA/Gas Filter, Remote Switch (arms sold separately) |
| BVX-250-KIT | BVX-250 + BVX-ARML + BVX-250-NOZR + BVX-250-NOZC (see below) |

| Part Numbers | Filters |
|--------------|---------------------------------------|
| FP-BVX250 | Pre-Filter (Pack of 5) |
| FM-BVX250 | Main Filter, HEPA 99.97% / Carbon |
| FG-BVX250 | Deep Bed Gas Filter (Carbon) |
| FN-BVX-250 | Replacement Nozzle Filter (pack of 5) |

| Part Numbers | Nozzles |
|--------------|------------------------------------|
| BVX-250-NOZR | Replacement Rectangular Nozzle |
| BVX-250-NOZC | Replacement Round- Circular Nozzle |

| Part Numbers | Optional Arm Kits & Accessories |
|----------------|--|
| BVX-ARM-K1 | 2.5' Flexible Arm, 6' Hose, Table Bracket & C-Clamps, ESD-Safe |
| BVX-ARM | 2.5' Flexible Arm, 2" Ø, ESD-Safe |
| BVX-ARML | 5' Flexible Arm, 2" Ø, ESD-Safe |
| BVX-CH01 | 6' BVX Connection Hose, 2" Ø, ESD-Safe |
| BVX-CH02 | 12' BVX Connection Hose, 2" Ø, ESD-Safe |
| AC-BVX250-DUCT | Adaptor for Direct Ducting BVX-250 into Ventilation Systems |
| AC-BVX250-OMNI | BVX-250 Adaptor for Metcal Omniflex Arms |
| BVX-TB01 | BVX Table Bracket & (2) C-Clamps |
| RPS-1 | Replacement Remote Power Switch for BVX-200 Series Systems |

BVX-250 is compatible with all BVX and Omniflex arms and hoses. See page 58.

Fume Extraction

BTX-208 Systems



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 Specifications - BTX-200 | |
|--------------------------------------|--|
| 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 a 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 Adaptor Kit |

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, a 50/50 mix 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 a 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° bends 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

VFX-1000 Accessories



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 |

Fume Extraction

Omniflex & BVX Arms



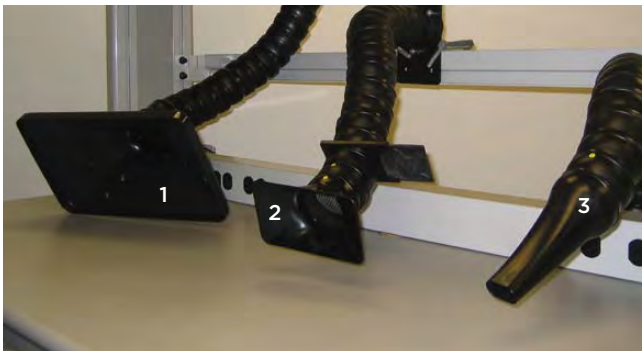
Omniflex Arms

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.

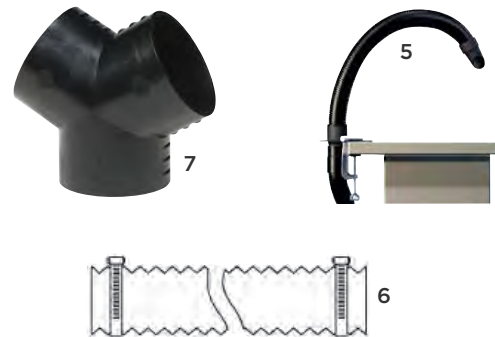


BVX Arms

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 waste of low-viscosity fluids.



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 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) |

| 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 Specifications | 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 178 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



Fluid Dispensing

Dispensing Tips



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 increases 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 colors - 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 the most popular TE, TE Bent and TT tips

900-NK

Dispensing Tip Kit



End Caps

- Designed to seal the large end of the syringe barrel
- Ensures 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 |

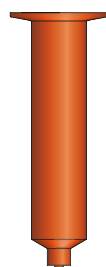


Air Powered Pistons

- 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

| 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

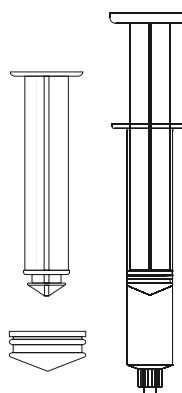
| Part Number | Description |
|-------------|---------------------------------------|
| 900-ORTC | Tip Care Double Helix Thread (Orange) |
| 900-BTC | Tip Care Double Helix Thread (Black) |
| 900-STC | Stand-up Tip Cap (Blue) |



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 |

Fluid Dispensing

Foot Valve Dispenser & Accessories



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, polypropylene 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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