

# Metcal MFR-2200 Series

## Dual Output 60W Solder / Rework Station Series



### MFR-2200 Series Features and Benefits

- Many options so you can create the system you need
- Dual 60W output enables you to use two hand-pieces simultaneously.
- SmartHeat® tips and cartridges sense the load and instantly delivers the right amount of heat to the joint.
- No calibration required which saves money and down-time.

### MFR-2200: 2 Outputs and 5 Handpiece Options: There Is A System That's Right For You

Metcal's MFR-2200 Soldering/Desoldering Stations are powerful, cost-effective systems that have a wide variety of **options and accessories to meet just about any application.** The MFR-2200 power supply has 2 outputs, so your operators can use 2 hand-pieces simultaneously. 5 hand-pieces are available, including a desoldering option, so the MFR-2200 can meet just about any need.

The MFR-2200 series uses SmartHeat® Technology, a microprocessor controlled heating system which operates at lower temperatures and eliminates calibration time. With both soldering and desoldering capabilities, the MFR-2200 eliminates the need for two separate units.

The MFR-2200 series is the best choice for small or large production environments which need a versatile soldering system with a small footprint.

### Technical Specifications

Part No.	MFR-2200 Series
Ambient Operating Temp.	10 - 40°C (50 - 104°F)
Max. Enclosure Temp.	55°C (131°F)
Input Line Voltage	100 - 240 VAC
Power Consumption	130W Max.
Input Line Frequency	50/60 Hz grounded circuit
<b>Output Power</b>	<b>60W @ 22°C/output (2 outputs)*</b>
<b>Output Frequency</b>	<b>450 KHz</b>
Power Cord (3-wire)	183cm (6'), 18/3 SJT
Dimensions (approx.) W x D x H	170 x 200 x 152.5mm (7" x 8" x 6")
Weight	2.97 kg (6.55 lbs)
Surface Resistivity	10 <sup>5</sup> -10 <sup>7</sup> Ohms
Certification / Marking	cTUVus, CE
<b>Soldering Handle and Coil Assembly Specifications</b>	
Tip-to-Ground Potential	< 2 mV RMS
Tip-to-Ground Resistance	<2 ohms
Idle Temperature Repeatability	± 1.1°C (2°F) in still air
Handle Cord Assembly Length	122cm (4') – burn proof, ESD safe
Connector	8-pin circular DIN
Workstand W x D x H	100 x 200 x 100mm (4" x 8" x 4")
Workstand Weight	0.69 kg (1.51 lbs)

\* RF SmartHeat Technology provides greater power. More details at [www.metcal.com/smartheat](http://www.metcal.com/smartheat)



[www.metcal.com](http://www.metcal.com)  
8/2016

### 5 Hand-piece Options



**Solder Cartridge Hand-piece (MFR-H1-SC2)**  
Standard equipment with MFR-2210/2211



**Tip Solder Hand-piece (MFR-H2-ST2)**  
Standard equipment with MFR-2220/2222



**SSC Cartridge Solder Hand-piece (MFR-H6-SSC).**  
Can be used with cartridges from Metcal's SP200 Soldering Station. Available as an accessory; see page 3



**Precision Tweezer Solder Hand-piece (MFR-H4-TW).**  
Standard equipment with MFR-2240/2241



**Desolder Hand-piece (MFR-H5-DS).**  
Available as an accessory; see page 3

# Metcal MFR-2200 Series Dual 60W Solder / Rework Station

## MFR-2200 Series Stations

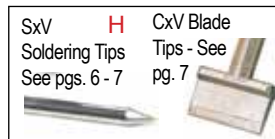
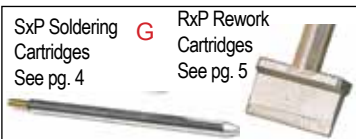
Part No.	Photo	Qty.	Description
<b>MFR-2210</b>	<b>1</b>		Solder Station w/Solder Cartridge Hand-piece
Includes:			
MFR-PS2200	A	1	MFR-PS2200 Power Supply (60W per output)
MFR-H1-SC2	B	1	Soldering Cartridge Hand-piece
WS1	E	1	Universal Soldering Workstand
SxP & RxP Cart.	G		Soldering/Rework Cartridges (SOLD SEPARATELY)
<b>MFR-2211</b>	<b>2</b>		Solder Station w/2 Solder Cartridge Hand-pieces
Includes:			
MFR-PS2200	A	1	MFR-PS2200 Power Supply (60W per output)
MFR-H1-SC2	B	2	Soldering Cartridge Hand-piece
WS1	E	2	Universal Soldering Workstand
SxP & RxP Cart.	G		Soldering/Rework Cartridges (SOLD SEPARATELY)
<b>MFR-2220</b>	<b>3</b>		Solder Station w/Solder Tip Hand-piece
Includes:			
MFR-PS2200	A	1	MFR-PS2200 Power Supply (60W per output)
MFR-H2-ST2	C	1	Soldering Tip Hand-piece
WS1	E	1	Universal Soldering Workstand
SxV & CxV Tips	H		Soldering/Blade Tips (SOLD SEPARATELY)
<b>MFR-2222</b>	<b>4</b>		Solder Station w/2 Solder Tip Hand-pieces
Includes:			
MFR-PS2200	A	1	MFR-PS2200 Power Supply (60W per output)
MFR-H2-ST2	C	2	Soldering Tip Hand-piece
WS1	E	2	Universal Soldering Workstand
SxV & CxV Tips	H		Soldering/Blade Tips (SOLD SEPARATELY)
<b>MFR-2240</b>	<b>5</b>		Solder Station w/Tweezer Cartridge Hand-piece
Includes:			
MFR-PS2200	A	1	MFR-PS2200 Power Supply (60W per output)
MFR-H4-TW	D	1	Tweezer Cartridges Hand-piece
MFR-WSPT	F	1	Tweezer Hand-piece Workstand
TxP Cartridges	I		Tweezer Cartridges (SOLD SEPARATELY)
<b>MFR-2240</b>	<b>6</b>		Solder Station w/Solder & Tweezer Cart. Hand-piece
Includes:			
MFR-PS2200	A	1	MFR-PS2200 Power Supply (60W per output)
MFR-H1-SC2	B	1	Soldering Cartridge Hand-piece
MFR-H4-TW	D	1	Tweezer Cartridges Hand-piece
WS1	C	1	Universal Soldering Workstand
MFR-WSPT	F	1	Tweezer Hand-piece Workstand
TxP Cartridges	I		Tweezer Cartridges (SOLD SEPARATELY)
SxP & RxP Cart.	G		Soldering/Rework Cartridges (SOLD SEPARATELY)



See page 3 for additional accessories

Each system includes 1 Tip Cleaner per hand-piece

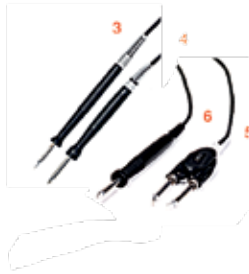
MFR-UK5 Desoldering Kit - Desolder Hand-piece (MFR-H5-DS) and Venturi Workstand (MFR-WSDSX) also available. See page 3 for additional upgrade kits.



Unit includes a 3 position switch (left/both/right) so you can use a single hand-piece or 2 hand-pieces simultaneously



# Metcal MFR-2200 Series Accessories and Replacement Parts



## Hand-pieces and replacement coils

MFR-H1-SC2	3	Cartridge Solder / Rework Hand-piece (MFR)
MFR-H2-ST2	4	Tip Solder Hand-piece (MFR)
MFR-CA3		Coil Assembly for MFR-H2-ST2 Hand-piece (MFR)
MFR-H4-TW	5	Precision Tweezer Hand-piece (MFR)
MFR-H6-SSC	6	SSC Cartridge Solder Hand-piece (MFR)
MFR-H5-DS	7	Desolder Hand-piece
MFR-HSREC		Cartridge Solder / Rework Hand-piece with long cord (1.83m / 6ft)
MFR-HSRLR	8	Cartridge Solder / Rework Hand-piece with long reach access



## Workstands

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



## Upgrade Kits

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



## Lead-Free Process Identification

WS1G	12	Green Universal Auto Sleep Workstand
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 SxV Cartridges (Pack of 50)
AC-CK3		Green Identification Ring for SSC Cartridges (Pack of 50)
AC-CK4	14	Green Identification Ring for SxV Tips (Pack of 50)

## Miscellaneous Accessories

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

## Desoldering Accessories

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



# Metcal MFR-2200 Series SxP Solder & Rework Cartridges



## SxP SOLDERING & REWORK CARTRIDGES

Compatible with: MFR-1110, MFR-1161, MFR-1351, MFR-2211, MFR-2241 Systems and MFR-H1-SC hand-piece

CHISEL			CONICAL	
	SFP-CH10 STP-CH10 SCP-CH10			SFP-CN04 STP-CN04 SCP-CN04
	SFP-CH15 STP-CH15 SCP-CH15			SFP-CNB04 STP-CNB04 SCP-CNB04
	SFP-CHB15 STP-CHB15 SCP-CHB15			SFP-CNL04 STP-CNL04 SCP-CNL04
	SFP-CH20 STP-CH20 SCP-CH20			SFP-CN05 STP-CN05 SCP-CN05
	SFP-CHL20 STP-CHL20 SCP-CHL20			SFP-CNB05 STP-CNB05 SCP-CNB05
	SFP-CH25 STP-CH25 SCP-CH25			SFP-CNL06 SCP-CNL06
	SFP-CH30 STP-CH30 SCP-CH30			SFP-BVL10 STP-BVL10 SCP-BVL10
	SFP-CH35 STP-CH35 SCP-CH35			SFP-DRH05 STP-DRH05 SCP-DRH05
	SFP-CH50 STP-CH50 SCP-CH50			SFP-DRH610 STP-DRH610 SCP-DRH610
	STP-WV20 SFP-WV20 SCP-WV20			SFP-DRH15 STP-DRH15 SCP-DRH15
	STP-WV30 SFP-WV30 SCP-WV30			SFP-DRH615 STP-DRH615 SCP-DRH615
				SFP-DRH35 STP-DRH35 SCP-DRH35
				SFP-DRK50 STP-DRK50 SCP-DRK50
HOOF			BEVEL	
			HOOF	
			KNIFE	

E = FR4 / Fiberglass, for most standard applications T = Temperature Sensitive C = Ceramic for high thermal demand applications.

# Metcal MFR-2200 Series RxP Rework Cartridges

Compatible with: MFR- 1110, MFR-1161, MFR-1351, MFR-2211, MFR-2241 Systems, MFR-H1-SC and MFR-H1-SC2 hand-pieces. All dimensions shown are in mm (inches)

RxP REWORK CARTRIDGES								
BLADE			<b>A</b>	<b>B</b>	<b>D</b>	<b>SMT TYPE</b>		
		RFP-BL1 RCP-BL1	10 (0.41)	-	-	-		
		RFP-BL2 RCP-BL2	15.6 (0.62)	-	-	-		
TUNNEL								
		RFP-DL1 RCP-DL1	5.18 (0.204)	10.16 (0.40)	3.22 (0.127)	Tunnel SOIC-14-16		
		RFP-DL2 RCP-DL2	5.18 (0.204)	4.32 (0.17)	2.29 (.09)	Tunnel SOIC-8		
SLOT								
		RFP-SL1 RCP-SL1	2.34 (.092)	1.37 (.054)	1.78 (.07)	0805 Chip Package		
		RFP-SL2 RCP-SL2	3.48 (.137)	1.63 (.064)	1.78 (.07)	1206 Chip Package		
QUAD			<b>A</b>	<b>A2</b>	<b>D</b>	<b>B</b>	<b>B2</b>	<b>SMT TYPE</b>
		RFP-QD4 RCP-QD4	12.70 (.500)	11.43 (.450)	3.81 (.150)	15.24 (.600)	13.97 (.550)	PLCC 32
		RFP-QD6 RCP-QD6	17.78 (.700)	16.76 (.660)	3.81 (.150)	17.78 (.700)	16.76 (.660)	PLCC 44
		RFP-QD7 RCP-QD7	25.27 (.995)	24.38 (.960)	5.59 (.220)	25.27 (.995)	24.38 (.960)	PLCC 68
		RFP-QD10 RCP-QD10	20.32 (.800)	19.30 (.760)	3.81 (.150)	20.32 (.800)	19.30 (.760)	PLCC 52
		RFP-QD15 RCP-QD15	13.34 (.525)	12.32 (.485)	2.79 (.110)	13.34 (.525)	12.32 (.485)	TQFP 80
		RFP-QD19 RCP-QD19	16.13 (.635)	16.13 (.635)	3.30 (.130)	16.13 (.635)	16.13 (.635)	QFP 44
RFP-QD20 RCP-QD20	16.51 (.650)	16.51 (.650)	3.30 (.130)	22.48 (.885)	22.48 (.885)	QFP 100		

**F** = FR4 / Fiberglass, for most standard applications

**T** = Temperature Sensitive

**C** = Ceramic for high thermal demand applications.

# Metcal MFR-2200 Series SxV Solder Tips



Compatible with: PS-900, MFR-1120, MFR-2220, MFR-2222 Systems,  
PS-HC3, MFR-H2-ST and MFR-H2-ST2 hand-pieces, PS-CA3, MFR-CA2 and MFR-CA3 Coil Assemblies

SxV SOLDERING TIPS		
CHISEL	<p>SFV-CH10A STV-CH10A SCV-CH10A</p>	
	<p>SFV-CH10AR STV-CH10AR SCV-CH10AR</p>	
	<p>SFV-CH10 STV-CH10 SCV-CH10</p>	
	<p>SFV-CH15A STV-CH15A SCV-CH15A</p>	
	<p>SFV-CH15AR STV-CH15AR SCV-CH15AR</p>	
	<p>SFV-CHB15 STV-CHB15 SCV-CHB15</p>	
	<p>SFV-CH18AR STV-CH18AR SCV-CH18AR</p>	
	<p>SFV-CH20 STV-CH20 SCV-CH20</p>	
	<p>SFV-CH24A STV-CH24A SCV-CH24A</p>	
	<p>SFV-CH25AR STV-CH25AR SCV-CH25AR</p>	
CHISEL	<p>SFV-CH25 STV-CH25 SCV-CH25</p>	
	<p>SFV-CH30AR STV-CH30AR SCV-CH30AR</p>	
	<p>SFV-CH50A STV-CH50A SCV-CH50A</p>	
	<p>SFV-CH50AR STV-CH50AR SCV-CH50AR</p>	
	<p>SFV-CH50 STV-CH50 SCV-CH50</p>	
	CONICAL	<p>SFV-CNL03AR STV-CNL03AR SCV-CNL03AR</p>
		<p>SFV-CNB04A STV-CNB04A SCV-CNB04A</p>
		<p>SFV-CN05A STV-CN05A SCV-CN05A</p>
		<p>SFV-CNB04AR STV-CNB04AR SCV-CNB04AR</p>
		<p>SFV-CNL04 STV-CNL04 SCV-CNL04</p>

F = FR4 / Fiberglass, for most standard applications T = Temperature Sensitive C = Ceramic for high thermal demand applications.

# Metcal MFR-2200 Series SxV Solder Tips / CxV Blade Tips



Compatible with: PS-900, MFR-1120, MFR-2220, MFR-2222 Systems,  
PS-HC3, MFR-H2-ST and MFR-H2-ST2 hand-pieces, PS-CA3, MFR-CA2 and MFR-CA3 Coil Assemblies

SxV SOLDERING TIPS		CxV BLADE TIPS		A		
CONICAL		SFV-CN05AR STV-CN05AR SCV-CN05AR	HOOF		SFV-DRH420AR STV-DRH420AR SCV-DRH420AR	
		SFV-CN05 STV-CN05 SCV-CN05			SFV-DRH20CP STV-DRH20CP SCV-DRH20CP	
		SFV-CNB05 STV-CNB05 SCV-CNB05			SFV-DRH430AR STV-DRH430AR SCV-DRH430AR	
		SFV-CNL10A STV-CNL10A SCV-CNL10A			STV-DRH630AR SCV-DRH630AR	
		SFV-CNL10AR STV-CNL10AR SCV-CNL10AR			SFV-DRH420A STV-DRH420A SCV-DRH420A	
		SFV-CNL10 STV-CNL10 SCV-CNL10			SFV-DRH30CP STV-DRH30CP SCV-DRH30CP	
		SFV-CNL14 STV-CNL14 SCV-CNL14			SFV-DRH440R STV-DRH440R SCV-DRH440R	
		SFV-DRH20 STV-DRH20 SCV-DRH20			SFV-DRH640AR STV-DRH640AR SCV-DRH640AR	
		SFV-CNL20 STV-CNL20 SCV-CNL20			SFV-DRH40CP STV-DRH40CP SCV-DRH40CP	
		SFV-WV20 STV-WV20 SCV-WV20			SFV-DRH440A STV-DRH440A SCV-DRH440A	
		SFV-DRK45A STV-DRK45A SCV-DRK45A			SFV-DRK30AR STV-DRK30AR SCV-DRK30AR	
		SFV-DRK50 STV-DRK50 SCV-DRK50			SFV-DRK45AR STV-DRK45AR SCV-DRK45AR	
	KNIFE					

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# Metcal MFR-2200 Series TxP Tweezer Cartridges

TxP TWEezer CARTRIDGES_		Compatible with: MFR-1140, MFR-2240, MFR2241 Systems and MFR-H4-TW hand-piece	
BLADE		T <u>F</u> P-BLP1 T <u>T</u> IP-BLP1 T <u>C</u> P-BLP1	1.0mm x 14mm (.04" x .55")
		T <u>F</u> P-BLP2 T <u>T</u> IP-BLP2 T <u>C</u> P-BLP2	2.0mm x 14mm (.08" x .55")
		T <u>F</u> P-CNP1 T <u>T</u> IP-CNP1 T <u>C</u> P-CNP1	Conical 0.4mm x 19.1mm (.015" x .75")
HEAVY DUTY			<b>A</b>
		T <u>F</u> P-BLH40 T <u>T</u> IP-BLH40 T <u>C</u> P-BLH40	6.35mm (.25")
		T <u>F</u> P-BLH50 T <u>T</u> IP-BLH50 T <u>C</u> P-BLH50	16mm (.62")
		T <u>F</u> P-BLH60 T <u>T</u> IP-BLH60 T <u>C</u> P-BLH60	20.5mm (.81")
		T <u>F</u> P-BLH70 T <u>T</u> IP-BLH70 T <u>C</u> P-BLH70	28mm (1.1")