

Metcal MFR-1100 Series

60W Single Output Solder / Rework System



Technical Specifications

Power Supply Part No.	MFR-PS1100
Ambient Operating Temp.	10 - 40°C (50 - 104°F)
Max. Enclosure Temp.	55°C (131°F)
Input Line Voltage	100 - 240 VAC
Power Consumption	70W Max.
Input Line Frequency	50/60 Hz grounded circuit
Output Power	60W @ 22°C/output*
Output Frequency	450 KHz
Power Cord (3-wire)	183cm (6'), 18/3 SJT
Dimensions (approx.) W x D x H	90 x 142 x 197.5mm (3.5" x 5.6" x 7.8")
Weight	2.3 kg (5.05 lbs)
Surface Resistivity	10 ⁵ - 10 ⁹ Ohms
Certification / Marking	cTUVus, CE
Soldering Handle and Coil Assembly Specifications	
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

MFR-1100 Series Features and Benefits

- Many options enable you to create the system you need
- 60W output gives you the power you need while using lower and safer temperatures.
- 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-1100: 5 Handpiece Options: There Is A System That's Right For You

Metcal's MFR-1100 Soldering Systems are powerful, cost-effective systems with a wide variety of **options and accessories to meet just about any application**. The MFR-1100 power supply has a powerful 60W output, and a wide variety of cartridges and tips are available so your operators can complete just about any task. 5 hand-pieces are available, including a desoldering option, so the MFR-1100 can meet just about any need.

The MFR-1100 series uses SmartHeat® Technology, a microprocessor controlled heating system which operates at lower temperatures and eliminates calibration time. With soldering and desoldering capabilities, the MFR-1100 eliminates the need for two separate units.

The MFR-1100 series is your best choice for a versatile soldering system with a small footprint.

5 Hand-piece Options



Solder Cartridge Hand-piece (MFR-H1-SC2)
Standard equipment with MFR-1110/1161



Tip Solder Hand-piece (MFR-H2-ST2)
Standard equipment with MFR-1120



SSC Cartridge Solder Hand-piece (MFR-H6-SSC)
Standard equipment with MFR-1160/1161



Precision Tweezer Solder Hand-piece (MFR-H4-TW).
Standard equipment with MFR-1140



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



Metcal MFR-1100 Series 60W Single Output Solder / Rework System

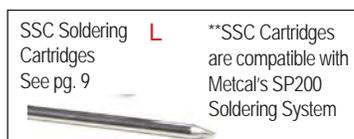
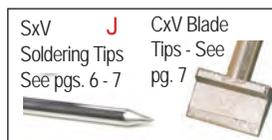
MFR-1100 Series Systems

Part No.	Photo	Qty.	Description
MFR-1110	1		Solder System w/Solder Cartridge Hand-piece
Includes:			
MFR-PS1100	A	1	MFR-PS1100 Power Supply (60W)
MFR-H1-SC2	B	1	Soldering Cartridge Hand-piece
WS1	F	1	Universal Soldering Workstand
SxP & RxP Cart.	I		Soldering/Rework Cartridges (SOLD SEPARATELY)
MFR-1120	2		Solder System w/Solder/Blade Tip Hand-piece
Includes:			
MFR-PS1100	A	1	MFR-PS1100 Power Supply (60W)
MFR-H2-ST2	C	1	Soldering Tip Hand-piece
WS1	F	1	Universal Soldering Workstand
SxV & CxV Tips	J		Soldering/Blade Tips (SOLD SEPARATELY)
MFR-1140	3		Solder System w/Tweezer Cartridge Hand-piece
Includes:			
MFR-PS1100	A	1	MFR-PS1100 Power Supply (60W)
MFR-H4-TW	D	1	Tweezer Cartridges Hand-piece
MFR-WSPT	G	1	Tweezer Hand-piece Workstand
TxP Tips	K		Tweezer Cartridges (SOLD SEPARATELY)
MFR-1160	4		Solder System w/SSC Solder Cartridge Hand-piece (Replacement System for Metcal's SP200)
Includes:			
MFR-PS1100	A	1	MFR-PS1100 Power Supply (60W)
MFR-H6-SSC	E	1	SSC Soldering Cartridge Hand-piece
WS2	H	1	Soldering Workstand For H6-SSC
SSC Cartridges	L		SSC Soldering Cartridges** (SOLD SEPARATELY)
MFR-1161	5		Solder System w/Soldering & SSC Cart. Hand-pieces
Includes:			
MFR-PS1100	A	1	MFR-PS1100 Power Supply (60W)
MFR-H1-SC2	B	1	Soldering Cartridge Hand-piece
MFR-H6-SSC	E	1	SSC Soldering Cartridge Hand-piece
WS1	F	1	Universal Soldering Workstand
WS2	H	1	Soldering Workstand For H6-SSC
SxP & RxP Cart.	I		Soldering/Rework Cartridges (SOLD SEPARATELY)
SSC Cartridges	L		SSC Soldering 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 Vacuum Workstand (MFR-WSDSX) available as an accessory. See page 3 for additional upgrade kits.



Also Available From Metcal -
MFR-2200 60W Dual Output Series:
Dual output w/3 position switch enables users to use a single hand-piece or 2 hand-pieces simultaneously.

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Metcal MFR-1100 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-1100 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-1100 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		A	B	D	SMT TYPE			
BLADE		RFP-BL1 RCP-BL1	10 (0.41)	-	-	-		
		RFP-BL2 RCP-BL2	15.6 (0.62)	-	-	-		
		RFP-BL3 RCP-BL3	22.1 (0.87)	-	-	-		
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		
		RFP-DL3 RCP-DL3	6.86 (.270)	11.15 (0.44)	2.29 (.09)	Tunnel SOIC-16		
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		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

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Metcal MFR-1100 Series SxV Solder Tips



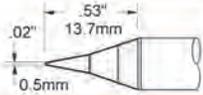
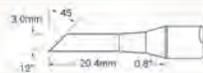
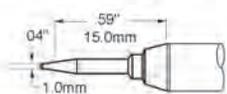
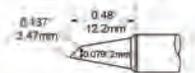
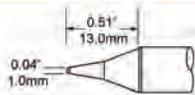
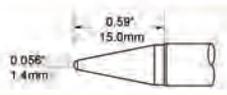
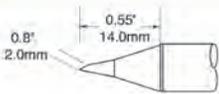
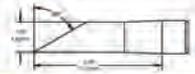
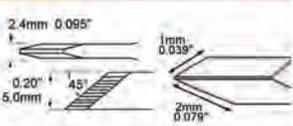
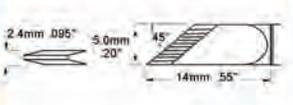
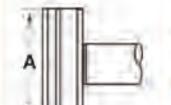
Compatible with: PS-900, MFR-1120, MFR-2220, MFR-2222 Systems,
PS-HC3, MFR-H2-ST and MFR-H2-ST2 hand-pieces, PS-CA3, MFR-CA2 and MFR-CA3 Coil Assemblies

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

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Metcal MFR-1100 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		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	
KNIFE		SFV-DRK45A STV-DRK45A SCV-DRK45A		CFV-BL100 CCV-BL100	10mm (.40")
		SFV-DRK50 STV-DRK50 SCV-DRK50		CFV-BL250 CCV-BL250	
			CFV-BL350 CCV-BL350		35mm (1.4")
			CFV-BL400 CCV-BL400		40mm (1.6")
			CFV-BL500 CCV-BL500		50mm (2")

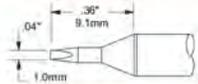
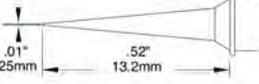
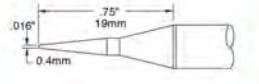
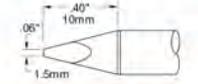
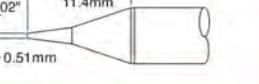
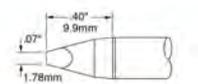
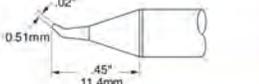
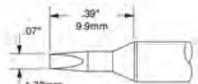
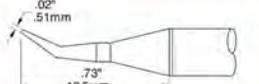
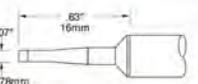
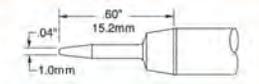
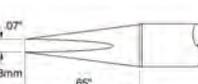
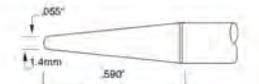
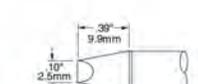
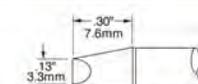
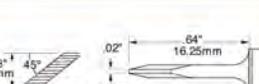
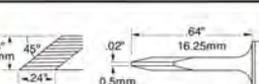
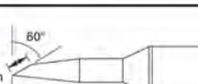
F = FR4 / Fiberglass, for most standard applications T = Temperature Sensitive C = Ceramic for high thermal demand applications.

Metcal MFR-1100 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>I</u> P-BLP1 T <u>C</u> P-BLP1	1.0mm x 14mm (.04" x .55")
		T <u>F</u> P-BLP2 T <u>I</u> P-BLP2 T <u>C</u> P-BLP2	2.0mm x 14mm (.08" x .55")
		T <u>F</u> P-CNP1 T <u>I</u> P-CNP1 T <u>C</u> P-CNP1	Conical 0.4mm x 19.1mm (.015" x .75")
HEAVY DUTY			A
		T <u>F</u> P-BLH40 T <u>I</u> P-BLH40 T <u>C</u> P-BLH40	6.35mm (.25")
		T <u>F</u> P-BLH50 T <u>I</u> P-BLH50 T <u>C</u> P-BLH50	16mm (.62")
		T <u>F</u> P-BLH60 T <u>I</u> P-BLH60 T <u>C</u> P-BLH60	20.5mm (.81")
		T <u>F</u> P-BLH70 T <u>I</u> P-BLH70 T <u>C</u> P-BLH70	28mm (1.1")

Metcal MFR-1100 Series SSC Soldering Cartridges

Compatible with: Previous SP200 System and new MFR-1160 & MFR-1161 Systems with MFR-H6-SSC Hand-piece

SSC SOLDERING CARTRIDGES						
CHISEL		SSC-671A SSC-771A	CONICAL		SSC-690A SSC-790A	
		SSC-625A SSC-725A			SSC-645A SSC-745A	
		SSC-638A SSC-738A			SSC-622A SSC-722A	
		SSC-637A SSC-737A			SSC-626A SSC-726A	
		SSC-672A SSC-772A			SSC-654A SSC-754A	
		SSC-642A SSC-742A			SSC-601A SSC-701A	
		SSC-670A SSC-770A			SSC-674A SSC-774A	
		SSC-636A SSC-736A		HOOF		SSC-667A SSC-767A
		SSC-613A SSC-713A				SSC-639A SSC-739A
	BEVEL			SSC-646A SSC-746A	KNIFE	
		SSC-617A SSC-717A		SSC-673A SSC-773A		
		SSC-647A SSC-747A				

6 = 600 Series for temperature sensitive applications - 7 = 700 Series for most standard applications.