

METAL COAT



WIRE FLAME SPRAY GUN MODEL: 12M

● All Purpose Ferrous & Non-Ferrous Coating
15G, 11G, 1/8" (3.17mm) 3/16" (4.76mm) WIRE

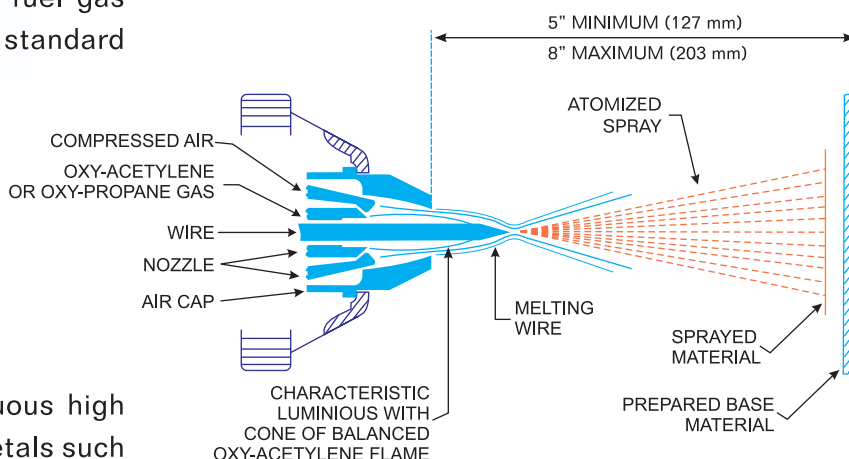
Wire Flame Spray Process

The wire is fed in to the front of gun through air driven turbine. Fuel gas and oxygen is properly and safely mixed in siphon plug gas head assembly which provides combustible heat source. The

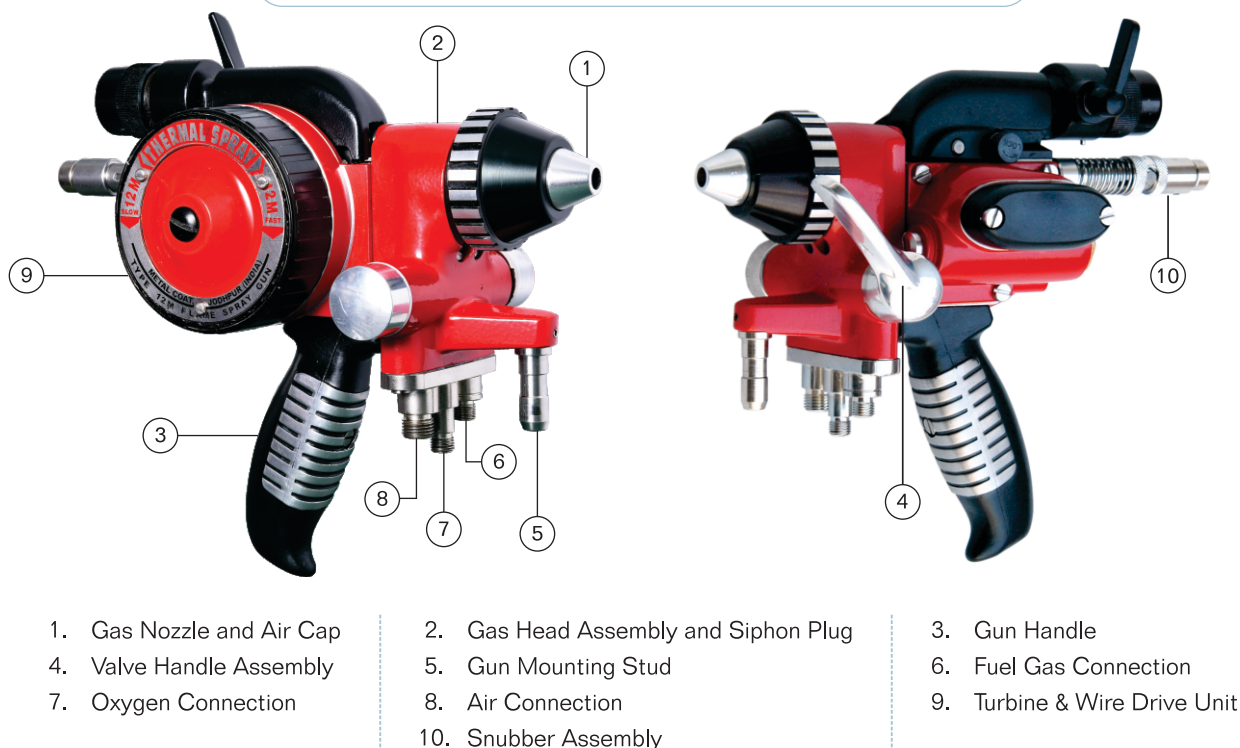
molten metal is hence atomized and propelled by compressed air in the form of fine metal spray for coating on job surface.

With universal, forged-aluminum gas head it can be adapted to use any fuel gas. The standard gun is set up to spray 1/8" wire using acetylene as the fuel gas suitable hardware is available for handling all standard wire sizes ranging from 3/16" down to 20 gauges.

The controlled speed range of the Type 12M Gun is from about 1-1/2 feet of wire per minute with standard gears to approximately 45 feet per minute with the special, easily installed, high speed gear set. The high speed gear set is for continuous high speed spraying of the lower melting point metals such as Babbitt, tin and zinc. The entire system (except the compressor), can be mounted on a cart for mobile applications and field repair work.



The 12M Gun is an equivalent to 12E Gun



The size of 12M Flame Spray Gun is approximately 9" Long & 9" height and 5-1/4" Wide. Weight is approximately 2.7 Kg.

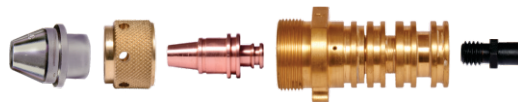
Spray Coating Wires

Generally all metals and metal alloys in wire form are used for spray coating i.e. Zinc, Copper, Aluminium, Brass, Steel, Stainless Steel, Molybdenum, Nickel Alloy etc. Standard Wire used are 1/8" (3.17mm), 5/32" (3.97mm), 3/16" (4.76mm).

Combustion Gases Used

The combustion gases used are oxygen and fuel gas such as acetylene, LPG, propane etc.

CONVERSION KIT



Conversion Kit for change of fuel gas acetylene to propane/LPG or vice-versa.

WIRE FLAME SPRAY GUN-12M SPECIFICATIONS

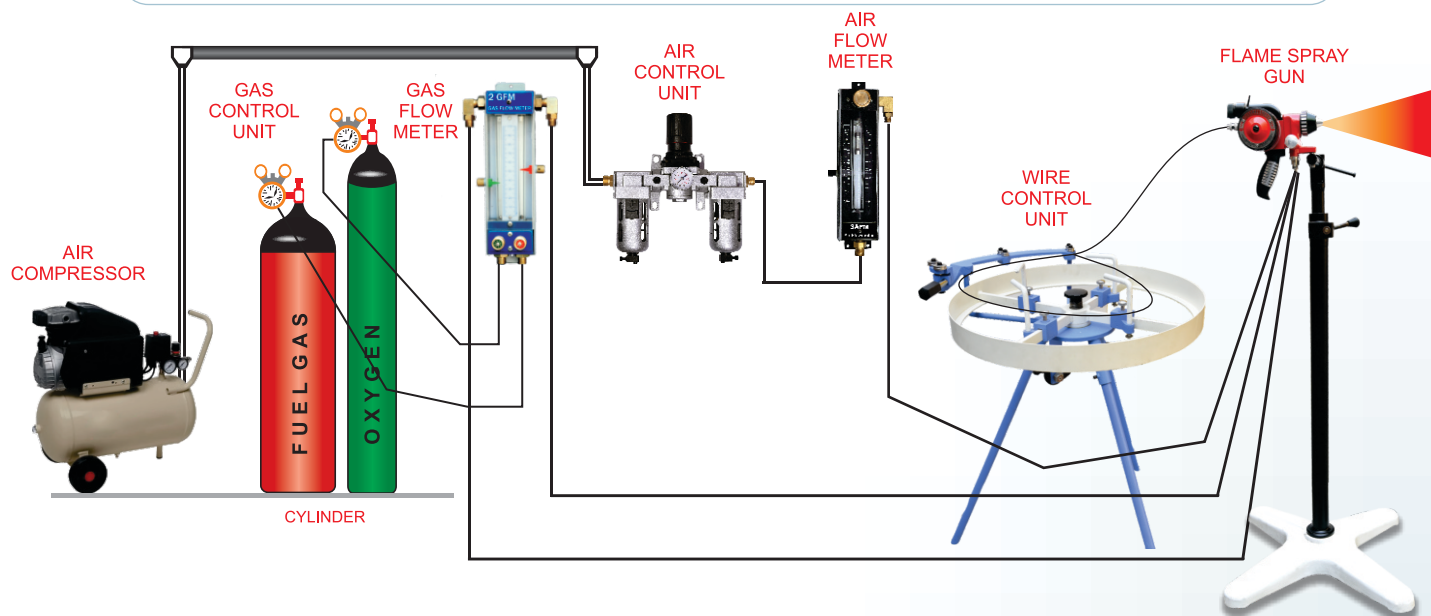
Operation	Manual
Wire Feed	Air Turbine
Wire Size Standard	1/8" (3.17mm)
Wire Size Optional	15G, 11G, 5/32", 3/16" (4.76mm)
Gasses Used	Oxygen and Fuel Gas
Fuel Gas	Acetylene or LPG / Propane etc.
Compressed Air	35 CFM at 75 psi (5 bar)
Net Weight	Approx 2.7 Kg. (Gun Only)

TYPICAL APPLICATION

- To provide Anti-Corrosion Coating
- To Improve Wear Resistance Properties
- To Reclaim Worn out Parts
- To Enhance Electrical Conductivity
- To Create Thermal Barrier Coating
- To Decorate Articles of various Materials

Gun is supplied with standard spares and tool kit.

WIRE FLAME SPRAY GUN - COMPLETE INSTALLATION



Typical Spray Rate with 1/8" wire (For Guidance Purpose Only)

Aluminium : 5.0 Kg./Hour

Zinc : 14.0 Kg./Hour

Carbon Steel : 5.9 Kg./Hour

Note: Buyer to specify wire diameter, material and fuel gas to be used while ordering the gun.

Copper : 10.9 Kg./Hour

Nickel : 4.5 Kg./Hour

Molybdenum : 3.5 Kg./Hour

Note: The above parameters are for reference purpose only. The actual values may differ depending upon the geometry & job size.

OPTIONAL ACCESSORIES

Gas Control Unit

Consist of Gas Regulator with pressure gauge for regulating gas flow to wire Flame Spray Gun. It has two pressure gauge to indicate cylinder and delivery pressure.

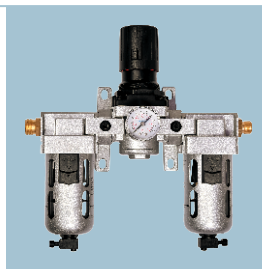
Pressure Rating:	Oxygen	: 10 Bar
	LPG/Propane	: 06 Bar
	Acetylene	: 2.5 Bar



Air Control Unit

Consist of air filter cum regulator for secondary filtration and regulating air flow to wire flame spray gun. An additional outlet provides connections for operator's helmet.

Pressure Rating: 10 Bar



Hose Kit

Consist of Hose to connect oxygen cylinder & fuel gas cylinder with gas flow meter to spray gun.

Oxygen Hose	- Blue	: 3+7 Mtrs.
Fuel Gas Hose	- Red	: 3+7 Mtrs.
Air Hose	- Black	: 7 Mtrs.



Air Flow Meter with Hose

The 3AFM Air Flow Meter is a highly accurate, rugged and reliable instrument for regulating and measuring the flow of compressed air in a manual powder or wire combustion spray system.

Model: 3AFM (Air Flow Meter)
Flow Unit in both NLPM & SCFM

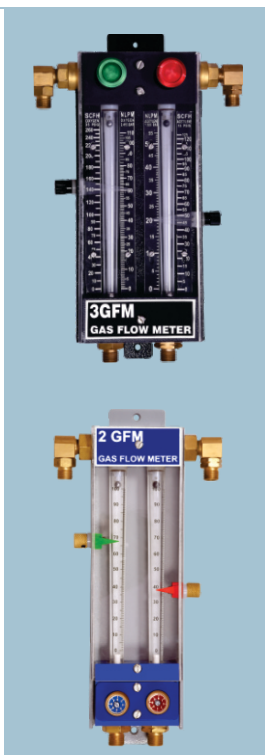


Gas Flow Meter

These precision wall mounting Flowmeters are recommended to use with Flame Spray Equipment. Ease of reading enables economic operation and rapid fault diagnosis. The unit incorporates separate flowmeter for both Oxygen and Fuel Gas supplies.

Model: 3GFM (Gas Flow Meter)
Flow Unit in both NLPM & SCFM

Model: 2GFM (Gas Flow Meter)
Supply with % scale of 0 - 100



Wire Control Unit

The Wire Reel Stand with Straightner is specifically designed to dispense wires for flame spraying. A wire straightener is included and the unit is capable of handling either reeled or loose coiled wire or spool.



A Trolley with Reel Stand is also available to move the complete system in shop easily.

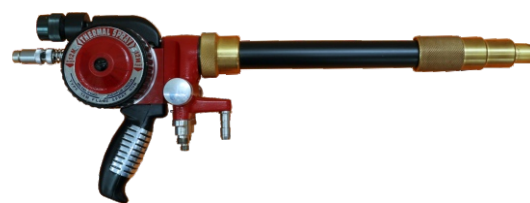
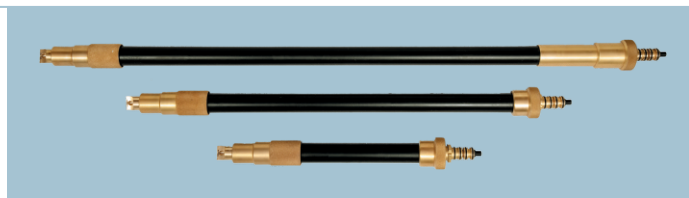
OPTIONAL ACCESSORIES

Extension Nozzles

Where deep bores or recesses are to be sprayed, a range of extension nozzles are available. These allow access of the spray at depths upto 1.1 Mtr., whilst straight or deflector air caps can be selected to direct the spray stream to the area required.

Typical use include spraying in internal diameter or hard to reach coating surfaces. For ID coatings, a minimum ID measurement of approximately 8 inches is required to achieve optimal coating quality.

Installation is simple by removing the standard Air Cap Body and Siphon plug and replacing it with the extension. This can be done in about 1-2 minutes without any tools. These are available in various lengths for both Oxy-Acetylene and Oxy-Propane Gun.



Length: 6 INCH / 1 FOOT / 2 FEET / 3 FEET

Spray Booth

It is used for controlling sprayed dust and fumes when metallizing operation takes place. It carries away metal dust particles as well as heat. Duct work has adjustable pipe length as well as ball joint to fit individual requirement. Reclaimed materials also have a resale value.

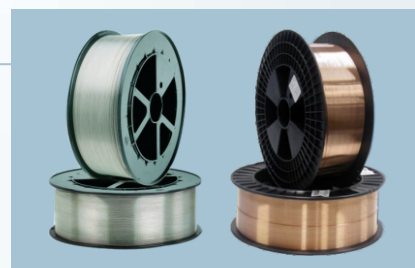


Applications of Various Metal Coatings

- Zinc & Aluminum for anti corrosion coating.
- Ni/Al composite wire for bond coats & self bonding coatings.
- Molybdenum for bond coating.
- Molybdenum for hard bearing applications, excellent resistance to adhesive wear, often used on piston rings, synchromesh cones & journals.
- High-chromium steel for hard & wear resistance coating.
- Bronze, babbitt for bearing applications.
- Stainless steel, nickel and monel for anti corrosion and wear.
- Al & Ni/Al for wear and oxidation resistance.

Metal Spray Wire

Standard materials wires such as Aluminium, Aluminium Alloy, Tin, Tin Alloy, Nickel, Nickel Alloy, Zinc, Stainless Steel, Brass, Molybdenum, Monel, Copper & many more are available.



SAFETY WEARS

Metallizing Helmet

Light weight & comfortable with excellent vision. Supplied from a separate air supply which should be filtered by Helmet Air Conditioner.



Air Breather

This is installed in between compressed air line originating from fitting to the operators helmets. Activated charcoal is contained in the breather unit which separates the oil traces from the compressed air and clean compressed air is fed to the operator's helmet.



Helmet Air Conditioner

Air from the air breather is fed to the helmet air conditioner and air is conditioned before it is fed to the helmet for breathing. It has also a regulator knob so that the operator can regulate the temperature of air fed to the helmet. It is self driven and doesn't need external power.



Ear Muff

Light weight & comfortable. Operator & other personnel close to the spray operation must wear. Protect the operator from noise originating during thermal spray.



Protective Glass

Light weight & comfortable with excellent vision. Operator & other personnel close to the spray operation must wear.



Operator Safety Mask

Ensure clean breathing air at all times. Conforms to current legislation on breathing air quality.























Hand Gloves





























These are made of rubber and have anti-static properties. Hand gloves protect the operators' hand against flying abrasive and static charge if any.


















SPARE PARTS LIST (12M WIRE FLAME SPRAY GUN)

DESCRIPTION	PART NO.	ITEM	DESCRIPTION	PART NO.	ITEM
AIR CAP BODY	12M-1		COUNTER SHAFT PLUG O-RING	12M-14	
SIPHON PLUG-LARGE GAUGE ACETYLENE	12M-2-5		SIPHON PLUG-O-RINGS	12M-14	
SIPHON PLUG-LARGE GAUGE PROPANE/LPG	12M-2-6		VALVE CORE O-RINGS	12M-14	
EA AIR CAP (2)	12M-3-EA		GAS HEAD BODY (Includes 12M 40, 12M 41)	12M-15	
EC AIR CAP (2)	12M-3-EC		GAS HEAD SUB ASSY.	12M-15A	
AH AIR CAP (2)	12M-3-AH		FRONT WIRE GUIDE 3/16"	12M-23-3/16	
CH AIR CAP (2)	12M-3-CH		FRONT WIRE GUIDE 1/8"	12M-23-1/8	
AB FAN SPRAY AIR CAP (2)	12M-4-AB		REAR WIRE GUIDE ASSEMBLY 3/16" (PLAIN)	12M-24-3/16	
CD FAN SPRAY AIR CAP (2)	12M-4-CD		REAR WIRE GUIDE ASSEMBLY 1/8" (PLAIN)	12M-24-1/8	
GAS HEAD ASSEMBLY	12M-5		SET SCREW FOR REAR WIRE GUIDE	12M-25	
NOZZLE NUT (2)	12M-6		UPPER DRIVE ROLL AXLE SCREW	12M-26	
NOZZLE 3/16 ACETYLENE (2)	12M-7-42		GUN HANDLE	12M-27	
NOZZLE 3/16 PROPANE (2)	12M-7-43		GUN HANDLE SCREW	12M-28	
NOZZLE 1/8 ACETYLENE (2)	12M-7-48		DRIVE ROLL CARRIER PIVOT PIN	12M-30	
NOZZLE 1/8 PROPANE (2)	12M-7-49		GUN HANDLE MOUNTING SCREW	12M-31	
OIL SIGHT PLUG ASSEMBLY (Includes 12M-49)	12M-10		BEARING COVER MOUNTING SCREW		
O-RING	12M-13		VALVE HANDLE SCREW		

SPARE PARTS LIST (12M WIRE FLAME SPRAY GUN)














DESCRIPTION	PART NO.	ITEM	DESCRIPTION	PART NO.	ITEM
UPPER DRIVE ROLL 3/16"	12M-32-3/16		OIL SIGHT PLUG O-RING SEAL	12M-49	
UPPER DRIVE ROLL 1/8"	12M-32-1/8		GREASE PLUG SCREW	12M-50	
UPPER DRIVE ROLL GEAR	12M-33		REAR BEARING RETAINER	12M-51	
UPPER DRIVE ROLL SCREW	12M-34		RETAINER PLUG	12M-52	
LOWER DRIVE ROLL 3/16"	12M-35-3/16		TURBINE/GEAR COVER SCREW	12M-53	
LOWER DRIVE ROLL 1/8"	12M-35-1/8		TURBINE ROTOR (Includes 12M-67)	12M-54	
LOWER DRIVE GEAR 3/16"	12M-36-3/16		GEAR COVER GASKET	12M-55	
LOWER DRIVE GEAR 1/8"	12M-36-1/8		GEAR COVER	12M-56	
UPPER DRIVE ROLL AXLE	12M-37		PLUG SCREW	12M-57	
BEARING FOLLOWER SUB-ASSEMBLY	12M-39		CENTRAL HOUSING (Includes 12M-13, 12M-60, 12M-61 12M-62 & 12M-63)	12M-59	
MOUNTING STUD	12M-40		PUMP HOUSING	12M-60	
MOUNTING STUD ROLL PIN	12M-41		PUMP HOUSING MOUNTING SCREW	12M-61	
VALVE CORE	12M-43		PUMP HOUSING LOCK WASHER	12M-62	
O-RING	12M-44		DOWEL PIN FOR MOUNTING GEAR COVER	12M-63	
VALVE HANDLE ASSEMBLY	12M-45		FINGER SPRING	12M-64	
O-RING	12M-46		DRIVE SHAFT	12M-65	
BEARING COVER	12M-47		DRIVE SHAFT GEAR	12M-66	
BEARING COVER GASKET	12M-48				

















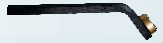

SPARE PARTS LIST (12M WIRE FLAME SPRAY GUN)

DESCRIPTION	PART NO.	ITEM
SET SCREW FOR TURBINE ROTOR	12M-67	
GEAR SET SCREW		
SET SCREW		
DRIVE SHAFT SEAL	12M-68	
RIGHT BALL BEARING FOR DRIVE SHAFT	12M-69	
FRONT AND REAR BALL BEARING FOR COUNTER SHAFT	12M-70	
LEFT BALL BEARING FOR DRIVE SHAFT		
NAME PLATE	12M-71	
RIGHT BALL BEARING FOR TURBINE SHAFT	12M-73	
WASHER FOR BRAKE DISC RETURN SPRING	12M-74	
BRAKE DISC RETURN SPRING	12M-76	
TURBINE COVER	12M-77	
BRAKE DISC	12M-78	
O-RING	12M-79	
OIL SEAL BOBBIN	12M-80	
OIL SEAL SLEEVE	12M-81	
OIL SEAL WASHER	12M-82	
LEFT BALL BEARING FOR TURBINE SHAFT	12M-83	

DESCRIPTION	PART NO.	ITEM
NUT FOR COUNTER SHAFT FRONT BEARING	12M-84	
NUT FOR LEFT BEARING		
CONTROL RING	12M-85	
SPIDER ASSEMBLY	12M-86	
DETENT SPRING	12M-87	
SCREW FOR RING NAMEPLATE	12M-89	
COUNTER SHAFT	12M-91	
TURBINE SHAFT, HIGH SPEED	12M-92-H	
TURBINE SHAFT, STANDARD	12M-92-S	
COUNTER SHAFT GEAR HIGH SPEED	12M-93-H	
COUNTER SHAFT GEAR STANDARD	12M-93-S	
GAS HEAD MOUNTING SCREW REAR	12M-96	
GAS HEAD MOUNTING SCREW FRONT	12M-97	
FACE BLOCK	12M-98	
SPRING	12M-99	
SOCKET WRENCH	12M-100	
LIGHTER	12M-101	
TURBINE SHAFT BEARING NUT-RIGHT	12M-102	












SPARE PARTS LIST (12M WIRE FLAME SPRAY GUN)

DESCRIPTION	PART NO.	ITEM
DRIVE ROLL TOOL	12M-103	
FIXING TOOL	12M-104	
SCREW DRIVER	12M-105	
FIX SPANNER (19/22)	12M-106	
NOZZLE O-RING, LARGE	12M-108	
NOZZLE O-RING, SMALL	12M-109	
GEAR LUBE	12M-110	
VALVE LUBE	12M-111	
SPANNER (13 x 17)		
CLEANING WIRE KIT	12M-114	
SUPPORT BLOCK MOUNTING SCREW	12M-117	
SNUBBER ASSEMBLY 1/8"	12M-118-1/8	
SNUBBER ASSEMBLY 3/16"	12M-118-3/16	
ROLLER SPRING	12M-119	
PUSH ROD	12M-123	
TOOL POST FIXTURE	12M-124	
CLAMP SHAFT HOUSING	12M-126	
CLAMP SHAFT	12M-127	

DESCRIPTION	PART NO.	ITEM
PIN	12M-128	
PUSH ROD SEAL	12M-129	
HANDLE ASSEMBLY	12M-130	
LOCKING SCREW	12M-131	
SPRING CAP	12M-132	
SET SCREW	12M-133	
CAM FOLLOWER ASSEMBLY	12M-134	
CAM ASSEMBLY	12M-135	
DRIVE ROLL CARRIER	12M-136	
SUPPORT BLOCK SUB ASSY.	12M-139	
SUPPORT BLOCK COMPLETE	12M-139A	
REAR WIRE GUIDE 3/16 (Plain)	12M-140	
REAR WIRE GUIDE 1/8 (Plain)	12M-141	
STRAIN RELIEF ASSEMBLY	12M-143	
STRAIN RELIEF BUSHING	12M-144	
COVER MOUNTING SCREW	12M-149	
FIXTURE BAR	12M-150	
FACE BLOCK MFG. SCREW	12M-156	

SPARE PARTS LIST (12M WIRE FLAME SPRAY GUN)

DESCRIPTION	PART NO.	ITEM
HOSE CONNECTION BLOCK SCREW	12M-157	
OIL SEAL ASSEMBLY (Includes 12M-79, 12M-80, 12M-81, 12M-82 & 12M-283)	12M-160	
SPRING (Strain Relief Spring)	12M-163	
PLUNGER (Fuel, Gas & Oxygen)	12M-165	
PLUNGER (Air)	12M-166	
PLUNGER O-Ring (Fuel, Gas & Oxygen)	12M-168	
PLUNGER O-Ring (Air)	12M-169	
PLUNGER SEAL O-RING (Gas, Fuel & Oxygen)	12M-170	
PLUNGER SPRING	12M-171	
DETENT PIN	12M-173	
DETENT PIN SPRING	12M-174	
HANDLE WASHER	12M-175	
HOSE CONNECTION BLOCK	12M-176	
VALVE CORE STOP SCREW	12M-179	
GAS HEAD VALVE O-RING PACKAGE (Complete set of O-Ring for 12M-5 Gas Head)	12M-184	
PLUG SCREW O-RING	12M-186	
PLUNGER O-RING (AIR)		
GUIDE INSERT 3/16	12M-187 3/16	

DESCRIPTION	PART NO.	ITEM
GUIDE INSERT 1/8	12M-187 1/8	
SNUBBING REAR GUIDE 3/16	12M-188 3/16	
SNUBBING REAR GUIDE 1/8	12M-188 1/8	
SIPHON PLUG AND NOZZLE O-RING PACKAGE (Includes 12M-14, 12M-108, 12M-109)	12M-190	
SIPHON PLUG ASSEMBLY 1/8, PROPANE	12M-200-2	
SIPHON PLUG ASSEMBLY 1/8, ACETYLENE	12M-200-3	
SIPHON PLUG ASSEMBLY 3/16, PROPANE	12M-200-4	
SIPHON PLUG ASSEMBLY 3/16, ACETYLENE	12M-200-5	
HEX ALLEN KEY 2mm	12M-202	
HEX ALLEN KEY 3mm	12M-240	
SPRING RETAINER	12M-241	
ROLLER	12M-242	
SNUBBER SPRING HOUSING	12M-243	
SPRING	12M-245	
COMPLETE O RING KIT	12M-262	
OIL SEAL SPRING	12M-283	

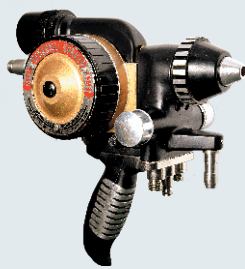
The Metal Coat 12M is a direct replacement for Metco 12E Gun. All the parts in this gun are interchangeable with Metco parts. The part number suffix (i.e the portion after the dash "-") should match the Metco part number. For example:

If you wish to order a 12E-7-48 Nozzle, the Metal Coat Part No. would be 12M-7-48

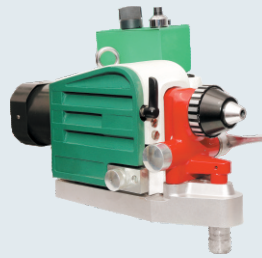
OTHER PRODUCT RANGE & CONSUMABLES



11M
WIRE FLAME SPRAY GUN



14M
WIRE FLAME SPRAY GUN



5KM
WIRE FLAME SPRAY GUN



ARC SPRAY GUN
AIR DRIVE



ARC SPRAY GUN
AC DRIVE



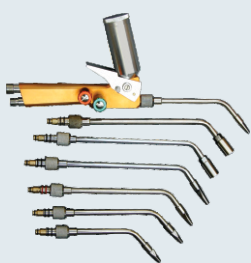
ARC SPRAY GUN
DC DRIVE



5PM-II
FLAME SPRAY POWDER GUN



6PM-II
FLAME SPRAY POWDER GUN



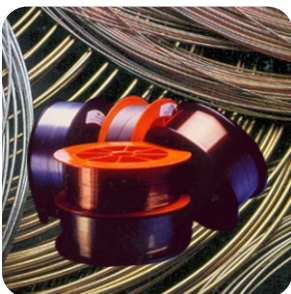
ST-100
FLAME SPRAY GUN



POWDER FEEDER
MPF-700 & MPF 3350



SPRAY BOOTH



WIRES



POWDER



TURN TABLE



**HVOF
CONTROL CONSOLE**



H.O. & Works:

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