

METAL COAT

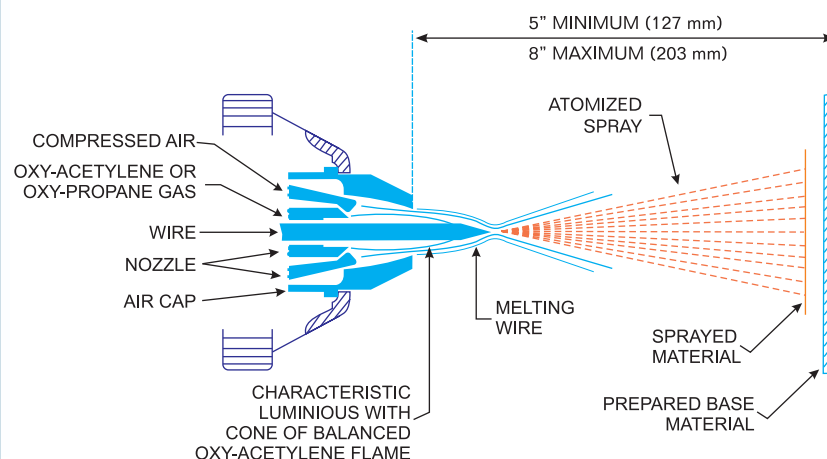


WIRE FLAME SPRAY GUN MODEL: 14M

Suitable For High & Low Melting Wires
Aluminium, Babbitt, Molybdenum, Copper, Brass etc.
1/8", 5/32" & 3/16" (3.17, 3.96, 4.76mm)

Wire Flame Spray Process

The wire is fed in to the front of the gun through air driven turbine. Fuel gas and oxygen is mixed properly and safely in the siphon plug gas head assembly, which provides combustible heat source. The molten metal is atomized and propelled by compressed air in the form of fine metal spray particles for coating on the job surface.



About the 14M Flame Spray Gun

The Metal Coat Flame Spray Gun 14M Gun is a lightweight wire spray gun that uses an air turbine to draw wire in, melt it with fuel gas and blast the molten particles on to the substrate. This versatile gun has a convenient wire feed thumb trigger making it an excellent choice for hand-held use. The Metal Coat Flame Spray Gun 14M has a universal gas head, which can be adapted to use Oxy/Acetylene or Oxy/Propane 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 1/16". The controlled speed range of the 14M Flame Spray Gun is from about 2 to 15 feet per minute (0.6 - 4.6 m/min) with standard gears to approximately 5 to 45 feet per

minute (1.5 - 14 m/min) 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 Zinc, Babbitt and Tin. A separate valve handle controls air and gas flow which helps keep wire from cooling and jamming in the nozzle when wire feed is temporarily stopped, reducing maintenance, material waste and lost production time to clear jams. Although the 14M Flame Spray Gun has been designed primarily for hand-held operation, a simple, rugged tool post fixture is supplied with each unit to permit mounting on a machine tool such as a lathe. Powered by compressed air and Oxy/Acetylene or Oxy/Propane, the entire system (except the compressor), can be mounted on a cart for mobile applications and field repair work.

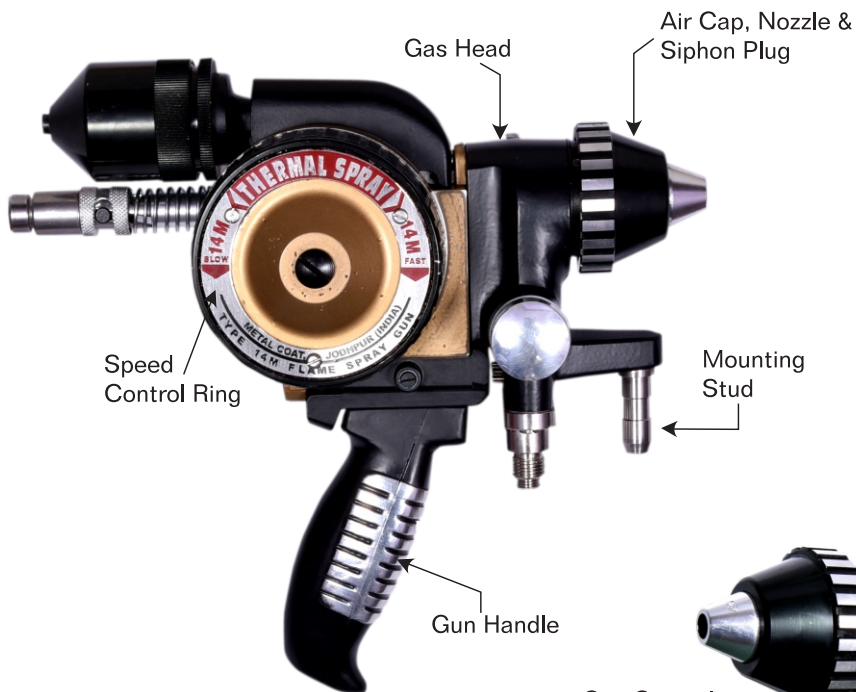
Uses

- Flame sprayed coatings with hard & soft wires.

Advantages

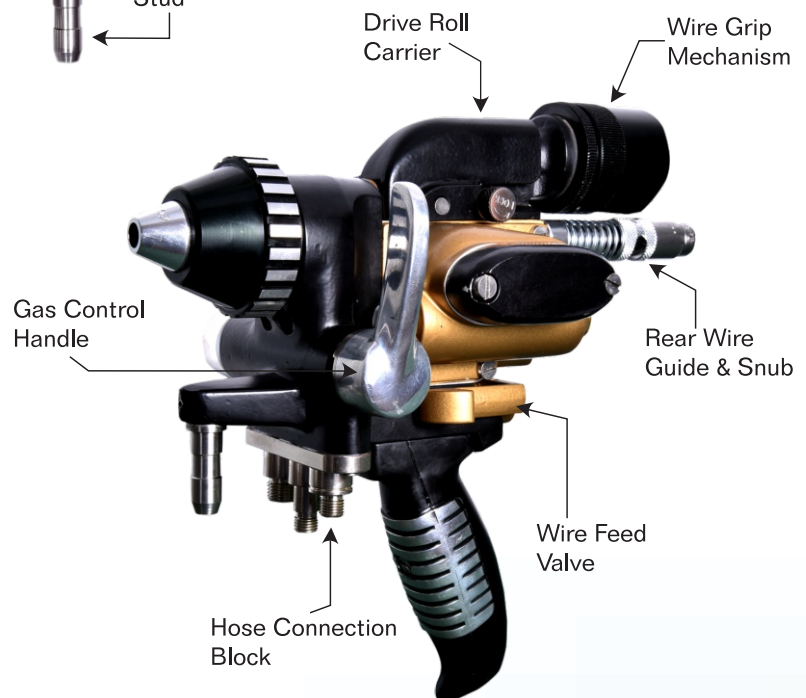
- Wire feed can be controlled very easily with a thumb trigger.
- Light Weight
- Easy to operate

14M FLAME SPRAY GUN

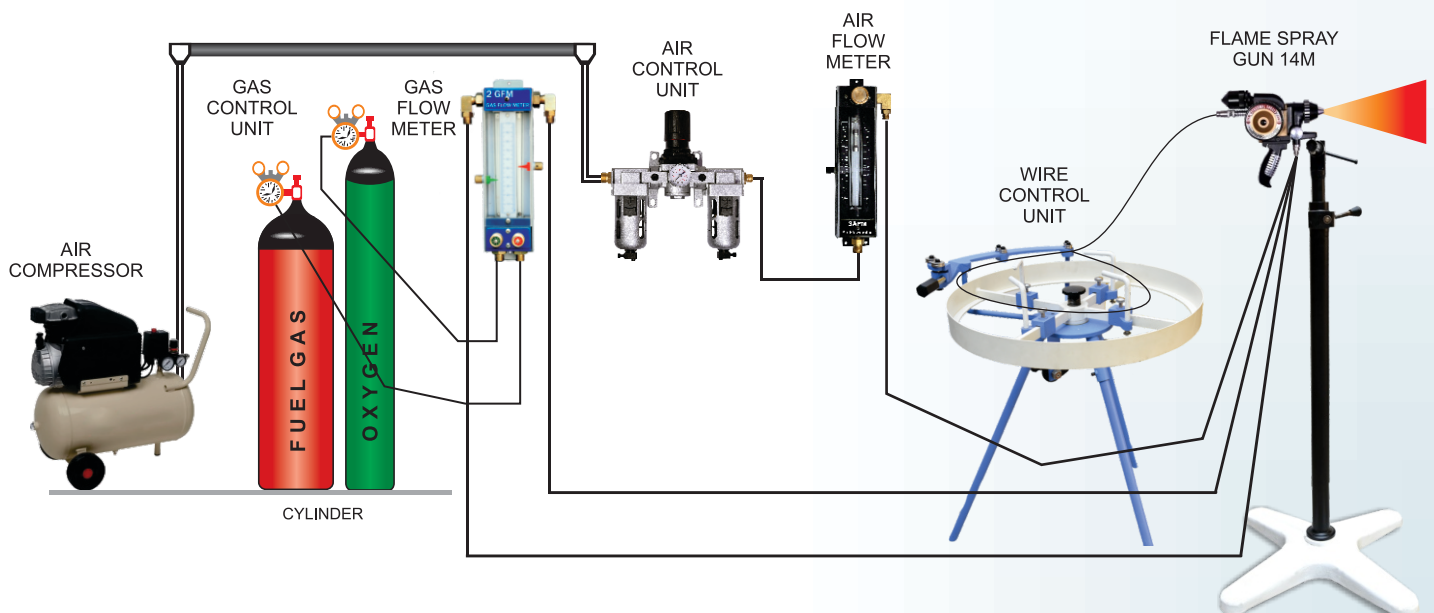


The 14M Gun is an equivalent to 14E Gun

Dimensions	
Length	9 Inch
Height	9 Inch
Wide	5- 1/4 Inch
Net Weight	Approx 2.7 Kg. (Gun Only)



WIRE FLAME SPRAY GUN - COMPLETE INSTALLATION



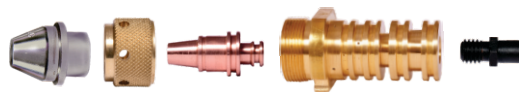
Spray Coating Wires

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-14M SPECIFICATION

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
Fuel Gas	Acetylene / LPG / Propane
Compressed Air	35 CFM FAD at 75 psi (5 bar)
Start Stop Operation	By Hand Trigger
Output (Spray Rate)	
Molybdenum	03.40 Kg./Hr approx.
Copper	10.90 Kg./Hr approx.
Brass	10.90 Kg./Hr approx.
Pure Nickle	04.50 Kg./Hr approx

Gun is supplied with standard spares and tool kit.

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

Note:

- Given parameters are only for reference purpose. Actual values may differ depending upon the geometry and size of the job.
- Buyer to specify wire diameter, material and fuel gas to be used while ordering the gun.

Suitable for both low and high melting wires

High Speed (Acetylene)

Aluminium	3/16"	7.25 Kg./Hr
	1/8"	5.90 Kg./Hr
Babbitt	3/16"	83.90 Kg./Hr
	1/8"	40.85 Kg./Hr
Zinc	3/16"	45.00 Kg./Hr
	1/8"	39.00 Kg./Hr

Standard Speed (Acetylene)

Aluminium	3/16"	6.35 Kg./Hr
	1/8"	5.45 Kg./Hr
Alu-Bronze	3/16"	4.10 Kg./Hr
	1/8"	6.80 Kg./Hr
Stainless Steel	3/16"	7.25 Kg./Hr
	1/8"	5.90 Kg./Hr
Zinc	3/16"	29.50 Kg./Hr
	1/8"	14.50 Kg./Hr

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.

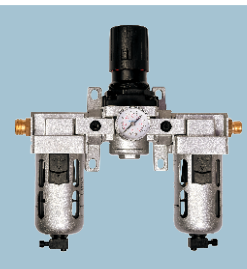
Pressure Rating:	Oxygen	: 10 Bar
	LPG/Propane	: 06 Bar
	Acetylene	: 2.5 Bar



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.

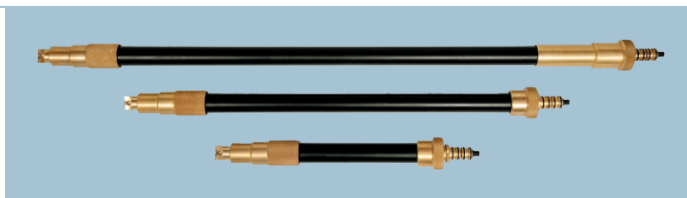
OPTIONAL ACCESSORIES

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 up to 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: 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.

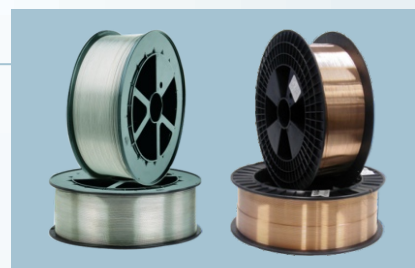


Applications of Various Metal Coatings

- 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 (14M WIRE FLAME SPRAY GUN)

DESCRIPTION	PART NO.	ITEM
AIR CAP BODY	14M-1	
SIPHON PLUG-LARGE GAUGE ACETYLENE	14M-2-5	
SIPHON PLUG-LARGE GAUGE PROPANE/LPG	14M-2-6	
EA AIR CAP (2)	14M-3-EA	
EC AIR CAP (2)	14M-3-EC	
AH AIR CAP (2)	14M-3-AH	
CH AIR CAP (2)	14M-3-CH	
AB FAN SPRAY AIR CAP (2)	14M-4-AB	
CD FAN SPRAY AIR CAP (2)	14M-4-CD	
GAS HEAD ASSEMBLY	14M-5	
NOZZLE NUT (2)	14M-6	
NOZZLE 3/16 ACETYLENE (2)	14M-7-42	
NOZZLE 3/16 PROPANE (2)	14M-7-43	
NOZZLE 1/8 ACETYLENE (2)	14M-7-48	
NOZZLE 1/8 PROPANE (2)	14M-7-49	
OIL SIGHT PLUG ASSEMBLY (Includes 14M-49)	14M-10	
O-RING	14M-13	


















DESCRIPTION	PART NO.	ITEM
COUNTER SHAFT PLUG O-RING	14M-14	
SIPHON PLUG-O-RINGS	14M-14	
VALVE CORE O-RINGS	14M-14	
GAS HEAD BODY (Includes 14M 40, 14M 41)	14M-15	
GAS HEAD SUB ASSY.	14M-15A	
FRONT WIRE GUIDE 3/16"	14M-23-3/16	
FRONT WIRE GUIDE 1/8"	14M-23-1/8	
SET SCREW FOR REAR WIRE GUIDE	14M-25	
UPPER DRIVE ROLL AXLE SCREW	14M-26	
GUN HANDLE (Includes 14M-28)	14M-27	
GUN HANDLE SCREW	14M-28	
DRIVE ROLL CARRIER PIVOT PIN	14M-30	
GUN HANDLE MOUNTING SCREW	14M-31	
BEARING COVER MOUNTING SCREW		
VALVE HANDLE SCREW		
UPPER DRIVE ROLL 3/16"	14M-32-3/16	
UPPER DRIVE ROLL 1/8"	14M-32-1/8	














SPARE PARTS LIST (14M WIRE FLAME SPRAY GUN)

DESCRIPTION	PART NO.	ITEM
UPPER DRIVE ROLL GEAR	14M-33	
UPPER DRIVE ROLL SCREW	14M-34	
LOWER DRIVE ROLL 3/16"	14M-35-3/16	
LOWER DRIVE ROLL 1/8"	14M-35-1/8	
LOWER DRIVE GEAR 3/16"	14M-36-3/16	
LOWER DRIVE GEAR 1/8"	14M-36-1/8	
UPPER DRIVE ROLL AXLE	14M-37	
MOUNTING STUD	14M-40	
MOUNTING STUD ROLL PIN	14M-41	
VALVE CORE	14M-43	
VALVE CORE & HOSE CONN. BLOCK O-RING	14M-44	
VALVE HANDLE ASSEMBLY	14M-45	
O-RING (Bearing Retainer)	14M-46	
BEARING COVER	14M-47	
BEARING COVER GASKET	14M-48	
OIL SIGHT PLUG O-RING SEAL	14M-49	
GREASE PLUG SCREW	14M-50	
REAR BEARING RETAINER	14M-51	



















DESCRIPTION	PART NO.	ITEM
RETAINER PLUG	14M-52	
TURBINE/GEAR COVER SCREW	14M-53	
TURBINE ROTAR	14M-54	
GEAR COVER GASKET	14M-55	
GEAR COVER	14M-56	
PLUG SCREW	14M-57	
CENTRAL HOUSING (Includes 14M-13, 14M-60, 14M-61, 14M-62 & 14M-63)	14M-59	
PUMP HOUSING	14M-60	
PUMP HOUSING MOUNTING SCREW	14M-61	
PUMP HOUSING LOCK WASHER	14M-62	
DOWEL PIN FOR MOUNTING GEAR COVER	14M-63	
DRIVE SHAFT	14M-65	
DRIVE SHAFT GEAR	14M-66	
SET SCREW FOR TURBINE ROTOR	14M-67	
GEAR SET SCREW		

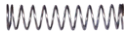






SPARE PARTS LIST (14M WIRE FLAME SPRAY GUN)

DESCRIPTION	PART NO.	ITEM
SET SCREW	14M-67	
DRIVE SHAFT SEAL	14M-68	
RIGHT BALL BEARING FOR DRIVE SHAFT	14M-69	
FRONT AND REAR BALL BEARING FOR COUNTER SHAFT	14M-70	
LEFT BALL BEARING FOR DRIVE SHAFT		
CONTROL RING NAME PLATE	14M-71	
RIGHT BALL BEARING FOR TURBINE SHAFT	14M-73	
WASHER FOR BRAKE DISC RETURN SPRING	14M-74	
TURBINE SHAFT RIGHT NUT	14M-75	
BRAKE DISC RETURN SPRING	14M-76	
TURBINE COVER	14M-77	
BRAKE DISC	14M-78	
O-RING	14M-79	
OIL SEAL BOBBIN	14M-80	
OIL SEAL SLEEVE	14M-81	
OIL SEAL WASHER	14M-82	
LEFT BALL BEARING FOR TURBINE SHAFT	14M-83	
NUT FOR COUNTER SHAFT FRONT BEARING	14M-84	
















DESCRIPTION	PART NO.	ITEM
NUT FOR LEFT BEARING	14M-84	
CONTROL RING	14M-85	
SPIDER ASSEMBLY	14M-86	
DETENT SPRING	14M-87	
SCREW FOR RING NAMEPLATE	14M-89	
COUNTER SHAFT	14M-91	
TURBINE SHAFT, HIGH SPEED	14M-92-H	
TURBINE SHAFT, STANDARD	14M-92-S	
COUNTER SHAFT GEAR HIGH SPEED	14M-93-H	
COUNTER SHAFT GEAR STANDARD	14M-93-H	
GAS HEAD MOUNTING SCREW REAR	14M-96	
GAS HEAD MOUNTING SCREW FRONT	14M-97	
FACE BLOCK	14M-98	
SPRING	14M-99	
SOCKET WRENCH	14M-100	
LIGHTER	14M-101	
TURBINE SHAFT BEARING NUB-RIGHT	14M-102	
DRIVE ROLL TOOL	14M-103	

















SPARE PARTS LIST (14M WIRE FLAME SPRAY GUN)

DESCRIPTION	PART NO.	ITEM
SPANNER WRENCH	14M-104	
SCREW DRIVER	14M-105	
NOZZLE O-RING, LARGE	14M-108	
NOZZLE O-RING, SMALL	14M-109	
GEAR LUBE	14M-110	
VALVE LUBE	14M-111	
CLEANING WIRE KIT	14M-114	
SUPPORT BLOCK MOUNTING SCREW	14M-117	
SNUBBER ASSEMBLY 1/8"	14M-118-1/8	
SNUBBER ASSEMBLY 3/16"	14M-118-3/16	
ROLLER SPRING	14M-119	
TOOL POST FIXTURE	14M-124	
CLAMP SHAFT HOUSING	14M-126	
CLAMP SHAFT	14M-127	
PIN	14M-128	
PUSH ROD SEAL	14M-129	
HANDLE ASSEMBLY	14M-130	
VALVE SHAFT ASSY. (IND. 14M 129)	14M-131	

DESCRIPTION	PART NO.	ITEM
VALVE SHAFT SPRING	14M-132	
DRIVE ROLL CARRIER	14M-136	
PISTON ROD	14M-138	
REAR WIRE GUIDE 3/16" (Plain)	14M-140	
REAR WIRE GUIDE 1/8" (Plain)	14M-141	
STRAIN RELIEF ASSEMBLY (Includes 14M-69, 144 & 163)	14M-143	
STRAIN RELIEF BUSHING	14M-144	
COVER MOUNTING SCREW	14M-149	
FIXTURE BAR	14M-150	
FACE BLOCK MFG. SCREW	14M-156	
HOSE CONNECTION BLOCK SCREW	14M-157	
OIL SEAL ASSEMBLY (Includes 14M-79, 14M-80, 14M-81, 14M-82 & 14M-283)	14M-160	
PLUNGER (Fuel, Gas & Oxygen)	14M-165	
PLUNGER (Air)	14M-166	
PLUNGER O-Ring (Fuel, Gas & Oxygen)	14M-168	
PLUNGER SEAL O-Ring (Air)	14M-169	
PLUNGER SEAL O-RING (Gas, Fuel & Oxygen)	14M-170	
PLUNGER SPRING	14M-171	

SPARE PARTS LIST (14M WIRE FLAME SPRAY GUN)

DESCRIPTION	PART NO.	ITEM
DETENT PIN	14M-173	
DETENT PIN SPRING	14M-174	
HANDLE WASHER	14M-175	
HOSE CONNECTION BLOCK	14M-176	
PISTON RETURN SPRING	14M-177	
VALVE CORE STOP SCREW	14M-179	
O-RING	14M-180	
GAS HEAD VALVE O-RING PACKAGE (Complete set of O-Ring for 14M-5 Gas Head)	14M-184	
PLUNGER O-RING	14M-186	
GUIDE INSERT 3/16	14M-187 3/16	
GUIDE INSERT 1/8	14M-187 1/8	
SNUBBING REAR GUIDE 3/16	14M-188 3/16	
SNUBBING REAR GUIDE 1/8	14M-188 1/8	
PUSH ROD LOCK	11M-189	
SIPHON PLUG ASSEMBLY 1/8, PROPANE	14M-200-2	
SIPHON PLUG ASSEMBLY 1/8, ACETYLENE	14M-200-3	
SIPHON PLUG ASSEMBLY 3/16, PROPANE	14M-200-4	
SIPHON PLUG ASSEMBLY 3/16, ACETYLENE	14M-200-5	

DESCRIPTION	PART NO.	ITEM
SIPHON PLUG AND NOZZLE O-RING PACKAGE (Includes 14M-14, 14M-108, 14M-109)	14M-190	
HEX ALLEN KEY 2mm	14M-202	
CYLINDER SUPPORT BLOCK	14M-206	
PISTON	14M-207	
PISTON O-RING	14M-208	
CYLINDER	14M-209	
TURBINE BEARING (LEFT)	14M-220	
BEARING FOLLOWER	14M-221	
HEX ALLEN KEY 3mm	14M-240	
SPRING RETAINER	14M-241	
ROLLER	14M-242	
SNUBBER SPRING HOUSING	14M-243	
SPRING	14M-245	
WIRE FEED VALVE BLOCK (Includes 14M 180)	14M-250	
OIL SEAL SPRING	14M-283	
PISTON STOP SCREW	14M-293	

The Metal Coat 14M is a direct replacement for Metco 14E 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 14E-7-48 Nozzle, the Metal Coat Part No. would be 14M-7-48

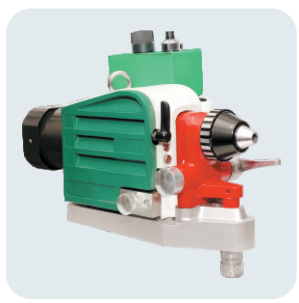
OTHER PRODUCT RANGE & CONSUMABLES



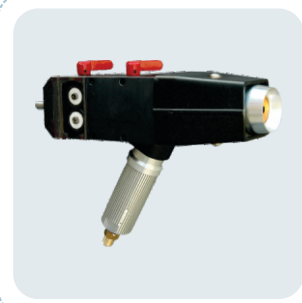
12M
WIRE FLAME SPRAY GUN



11M
WIRE FLAME SPRAY GUN



5KM
WIRE FLAME SPRAY GUN



AIR DRIVE
ARC SPRAY GUN



AC DRIVE
ARC SPRAY GUN



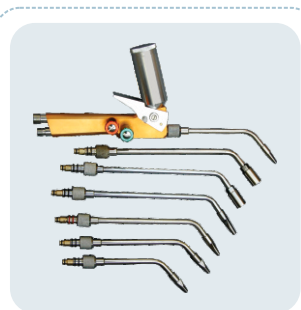
DC DRIVE
ARC SPRAY GUN



5PM-II
POWDER SPRAY GUN



6PM-II
POWDER SPRAY GUN



SPRAY & FUSE GUN



POWDER FEEDER
MPF-700 & MPF 3350



SPRAY BOOTH



WIRES



POWDER



TURN TABLE



**HVOF
CONTROL CONSOLE**



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