



POWDER FLAME SPRAY GUN **5PM-II**



The Metal Coat **5PM-II GUN** for Combustion Powder Spray is a lightweight, handheld spray gun that is unique within the industry. The 5PM-II has a built-in powder canister; therefore, an external powder feeder is not required. The 5PM-II is ideal for occasional thermal spray needs and a good choice for entry level combustion powder spray requirements.

POWDER FLAME SPRAY GUN 5PM-II

The Metal Coat 5PM-II Powder Flame Spray Gun is a very economical and versatile, handheld, powder flame spray gun for combustion powder spray that can be used to apply coatings for a variety of applications such as surface repairs, dimensional restoration, corrosion protection and wear resistance. With its built-in powder feed canister, a thermal spray system utilizing the 5PM-II gun is an excellent choice for shops with occasional surfacing activity or when an economical investment is required. The 5PM-II is suitable for all-purpose use in that it can apply a wide range of coating materials such as self-fluxing alloys, ceramics, self-bonding materials and conventional materials such as steels, stainless steels, bronze, aluminum-based and nickel-based alloys.

Designed for handheld operation, the 5PM-II is light weight and employs a 'pistol-grip' handle for operator comfort and safety. A tool post fixture can be supplied to rest the gun during workpiece changeover or for machine-mount operation.

Specifications

Size

310 mm (L)
305 mm (H)
125 mm (W)

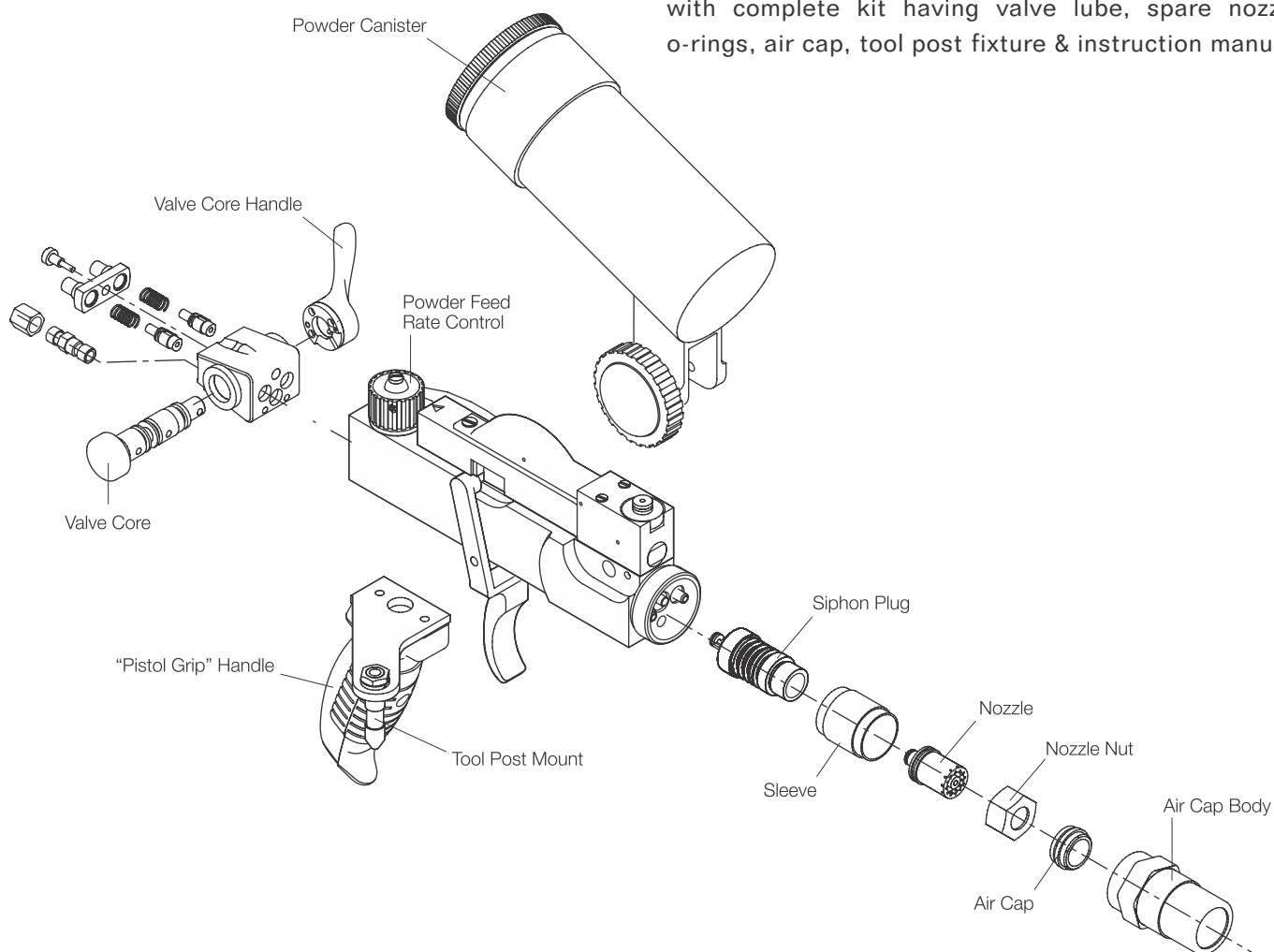
Weight

Approx. without hoses
& empty powder canister 2 Kg.

Gases Consumption

Acetylene	13.5 to 31.5 NLPM
Hydrogen	90 to 144 NLPM
Oxygen	20 to 45 NLPM
Compressed air	0.85 m ³ /min at 4.5 bar

Note: The 5PM-II powder flame spray gun is supplied with complete kit having valve lube, spare nozzle o-rings, air cap, tool post fixture & instruction manual.



POWDER FLAME SPRAY GUN 5PM-II

The gun is simple to use, a trigger mechanism starts and stops the flow of powder, and an on-board adjustment knob controls powder feed rate. A built-in gas valve starts and stops the flow of oxygen and fuel gas.

The 5PM-II can be used with either acetylene or hydrogen as the fuel gas. Hydrogen is recommended when spraying finer powder materials.

The self-contained powder canister uses a gravimetric, aspiration feeding system, which has been engineered to be both rugged and reliable. It is attached to a gun at an angle to facilitate a comfortable weight balance for manual spray operation.

A siphon plug system mixes the fuel and oxygen gases in precise volumetric proportions at the gun to provide consistent operation and prevents the possibility of backfire.

Air caps supplied with the gun appropriately shape the flame for different applications. The standard air cap, used for most coatings, provides divergent gun cooling air that will not interfere with the flame or spray stream. A reversible air cap can be used to create a parallel air flow to cool the workpiece or as a convergent pinch air flow for use with fine materials, thereby increasing the spray efficiency of materials, such as carbides, or to obtain cleaner, brighter coatings produced from self-fluxing alloys.



SPECIAL FEATURES

- Rugged design: built for long service life with limited maintenance.
- Simple operation: requires minimal operator training.
- Wide range of coating materials: can be used for a variety of surfacing applications, including ceramic materials.
- Choice of fuel gas: allows to choose between acetylene or hydrogen.
- High spray rates and deposit efficiencies: applies coatings quickly and economically.
- Light weight and well-balanced: designed for handheld operation, unloaded canister and without hoses, with a comfortable 'pistol grip' handle design.
- Integrated powder feed canister: eliminates the need to purchase a separate powder feeder.
- Smooth powder feed: ensures consistent, quality coatings.
- Powder flow control knob: mounted on the gun for convenient powder feed rate adjustment.
- Powder feed trigger: provides simple powder feed start and stop.
- Powder canister bayonet mount: locks the canister tightly to prevent spills.
- Mounting stud: for machine mounted operation or use as a gun rest during workpiece changeover.
- O-ring seals between nozzle and siphon plug: ensures safe and reliable operation without the risk of backfire and simplifies gun maintenance.
- Choice of air caps: optimizes cooling during spray operations for a variety of coatings.
- Onboard gas valve: for simple oxygen and fuel gas flow start and stop.
- Simple maintenance and hardware changeover: the nozzle and siphon plug assemblies can be easily removed and replaced without additional tools.

STANDARD ACCESSORIES

Air Jet Assembly

When additional workpiece cooling is required or if denser, harder coatings are desirable, the 2PSA Air Jet Assembly is recommended. It designed to attach to the front of the 5PM-II gun, it injects high velocity air into the spray stream. Adjustable cooling tubes can be focused towards any part of the spray stream or directly onto the workpiece.



Vibrator

For certain fine materials or powders that are not freely flowing, the 5PVM-Vibrator is recommended. It requires a single phase 220V AC or 110V AC Supply.



Gas Control Unit

Consisting of precision two stage regulators for regulative oxygen and fuel gas supply to gun.



3GFM Gas Flow Meter

These precision wall mounting Flow Meters are recommended to use with Flame Spray Equipment. Use for measuring the flow of Oxygen and Fuel gas and also prevent back fire.

Ease of reading enables economic operation and rapid fault diagnosis. The unit incorporates separate flow meter for both Oxygen and Fuel Gas supplies.

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

Air Control Unit

Consist of Air regulator with pressure gauge and dual air filter for regulating compressed air supply to the gun.



Hose Kit

High pressure hoses for oxygen and fuel gas to connect the gun with Gas Control Unit

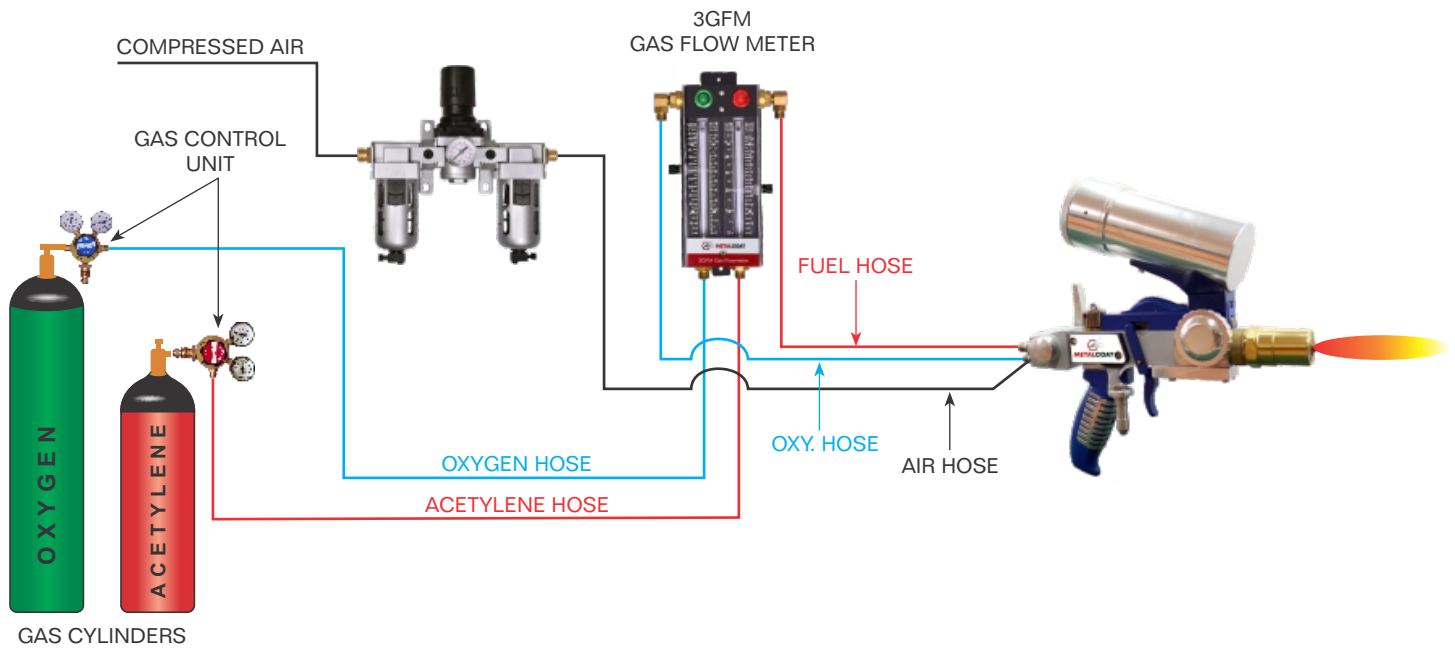


Extension Nozzle

Extension Nozzle for the 5PM-II gun permit coating of interior bore diameters and surfaces, and are available in 2 feet (610mm) standard length.



POWDER FLAME SPRAY GUN 5PM-II INSTALLATION



PRODUCT VIDEO



PROPERTIES OF COATING POWDERS

When a material is flame-sprayed, a new & different material is created. This is why quality of coating depends upon quality of powder. A slight variation in powder chemistry can greatly influence the property of final coating. The particle size distribution in a powder can affect the density and porosity of the coating. Our Powders meet tough standards on chemical composition, particle shape, particle size, flow rate & purity. The following are few powders most commonly used.

Nickel Aluminum Alloy

(A) Ni-Al 95/5

Nickel Aluminum composite that reacts exothermically during spraying. General purpose Bond Coat. Produces dense & self bonding coating. Good resistance to thermal shock & oxidation. Hardness: 75 R

(B) Ni-Al-Mo 95/5/5

Nickel-Aluminum-molybdenum composite, for general purpose for medium hard coating for hard bearing and wear resistant applications. Coating is tough & can withstand impact. HARDNESS: 75 R

Nickel Based Self Fluxing Alloy

(A) Ni-Cr-Fe-Si-B

Nickel based self fluxing alloy. Produces hard, dense and porefree coating that is fusible. Good resistance to corrosion & wear by abrasive grains, hard surfaces, particle erosion, fretting & cavitation. Easy to fuse & will not crack even in thick build up. HARDNESS: 60 R

Ceramic Powders

(A) $\text{Al}_2\text{O}_3\text{-TiO}_2$ 97/3

Aluminium-Titania (97/3) powder for good wear resistance to abrasion & erosion. It can be used in many environments including most acids and alkalies. Hardness: 50 R

(B) $\text{Al}_2\text{O}_2\text{-TiO}_2$ 60/40

Contains 60% aluminium oxide & balance titanium oxide for highly abrasion resistant coating with good corrosion resistance. It can be used for thread guide to resist abrasive fibers. HARDNESS : 60 R

(C) Cr_2O_3

Pure chromium oxide powder, suitable for wear due to abrasion, corrosion, oxidation, fretting or erosion resistance coating. Coating will be dense and can be used on pump seal areas, ground rolls and wear rings. HARDNESS : 60 R

TYPICAL SPRAYING RATE OF 5PM-II GUN

Powder	Spray Rate (Kg/Hr)
Ni-Cr Self Fluxing Alloy	08
Cobalt Based Self Fluxing Alloy	08
Ni-Al Alloy	2.7
Alumina-Titania	1.2
Chromium Oxide	1.2

SAFETY WEARS

Metallizing Helmet

It is light weight & comfortable with excellent vision. Air to the helmet is supplied from the helmet air conditioner followed by air breather.



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 contained 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 does not need external power.



Ear Muff

Operator & other personnel close to the spray operation must wear. It protects 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.



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.



OTHER PRODUCT RANGE & CONSUMABLES



11M
WIRE FLAME SPRAY GUN



12M
WIRE FLAME SPRAY GUN



14M
WIRE FLAME SPRAY GUN



5KM
WIRE FLAME SPRAY GUN



100AD (AIR DRIVE)
ARC SPRAY GUN



101AC (AC DRIVE)
ARC SPRAY GUN



102DC (DC DRIVE)
ARC SPRAY GUN



6PM-II
POWDER FLAME SPRAY GUN



MST-100
SPRAY & FUSE GUN



POWDER FEEDER
MPF-700 & MPF 3350



SPRAY BOOTH



WIRES



POWDER



TURN TABLE



**HVOF
CONTROL CONSOLE**



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METAL COAT



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