

Product Data Sheet

Metco 5P-II Combustion Powder Spray Gun

The Metco™ 5P-II Thermospray™ Gun for Combustion Powder Spray is a lightweight, handheld spray gun that is unique within the industry. The Metco 5P-II includes a built-in powder canister; therefore, an external powder feeder is not required. The Metco 5P-II is ideal for occasional thermal spray needs and a good choice for entry-level combustion powder spray requirements.

The Metco 5P-II is a very economical and versatile, handheld, Thermospray 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 Metco 5P-II gun is an excellent choice for shops with occasional surfacing activity or when an economical investment is required. The Metco 5P-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.

Oerlikon Metco has a large portfolio of materials appropriate for use with the Metco 5P-II gun and the combustion powder spray process.

Economics are further enhanced using the Metco 5P-II gun by its high deposit efficiencies and spray rates.

Designed for handheld operation, the Metco 5P-II is lightweight and employs a 'pistol-grip' handle for operator comfort and safety. A tool post fixture is also included to rest the gun during workpiece changeover or for machine-mount operation.



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1 General Description

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.

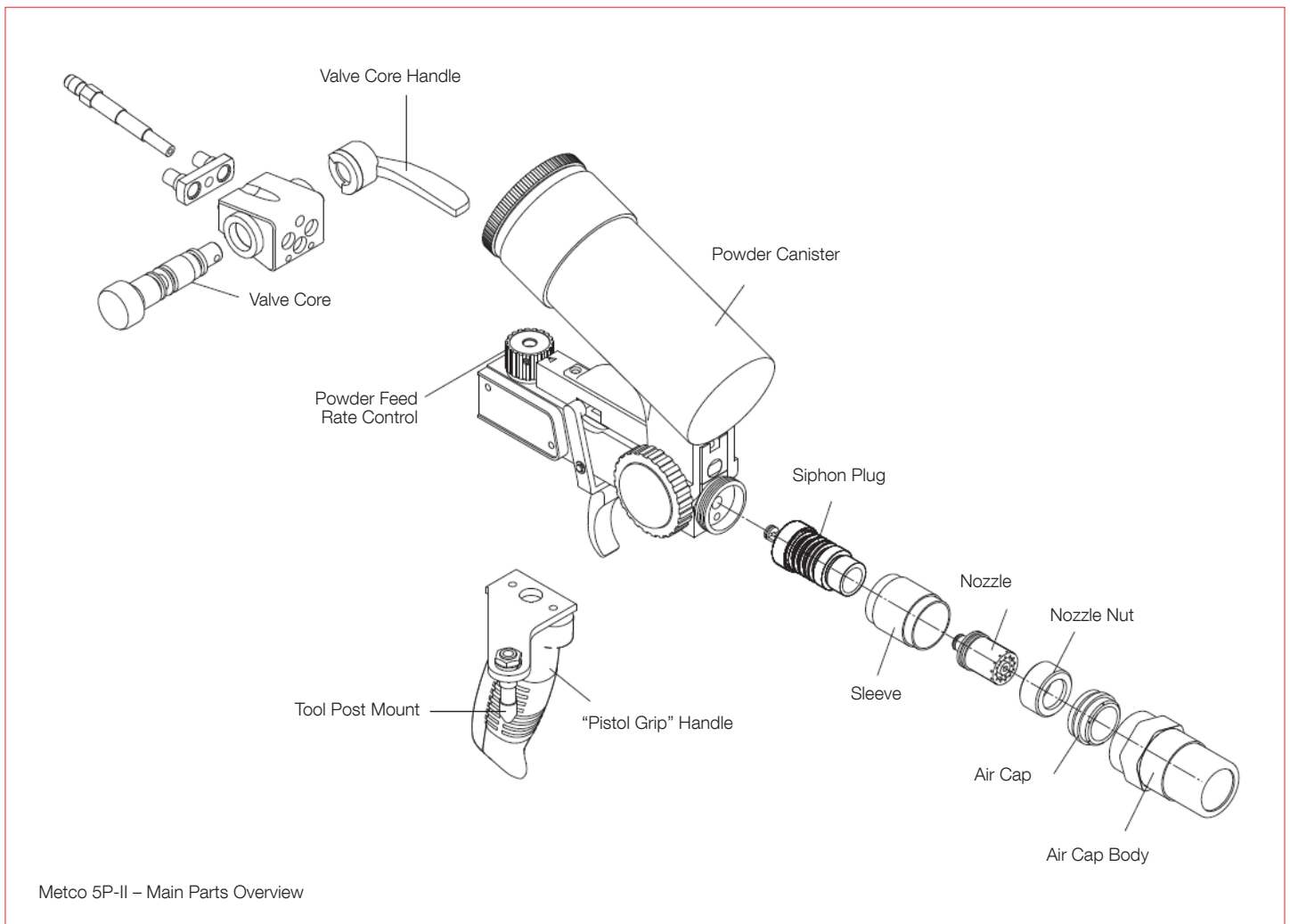
The Metco 5P-II can be used with either acetylene or hydrogen as the fuel gas. Hydrogen is recommended when spraying finer powder materials.

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.

An optional air jet unit, the 2PSA Air Jet Assembly can be purchased. It provides additional workpiece cooling and removal of dust on the workpiece during spraying. The Air Jet Assembly should always be used when applying ceramics with the Metco 5P-II gun to help accelerate the molten ceramic particles, which results in a denser coating.



2 Features and Benefits

- 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 spray operations 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 at approximately 1.8 kg (4 lb); 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.

3 Accessories and Options

Oerlikon Metco offers a variety of options that allow configuration of the Metco 5P-II gun for use in a wide number of coating applications and to suit specific production requirements. These include hoses, nozzles, siphon plugs, metering valves and air caps. Customers should choose the correct parts for their specific coating application and spray requirements.

Vibrator Unit: For certain fine materials or powders that are not freely flowing, the 5PVA is available as an option.

Air Jet Assembly: If additional workpiece cooling is required or if denser, harder coatings are desirable, the 2PSA Air Jet Assembly is available. Designed for attachment to the front of the 5P-II gun, it injects high velocity air into the spray stream. Adjustable cooling tubes can be focused towards

- 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 on 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.

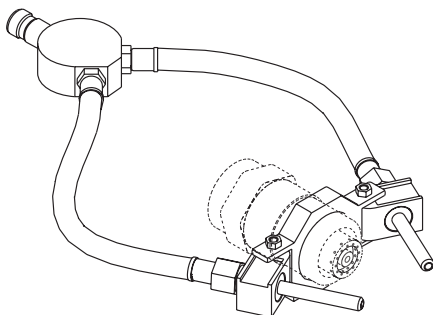
any part of the spray stream or directly onto the workpiece.

Extension Modules: Extension modules for the Metco 5P-II gun permit coating of interior bore diameters and surfaces, and are available in two standard lengths:

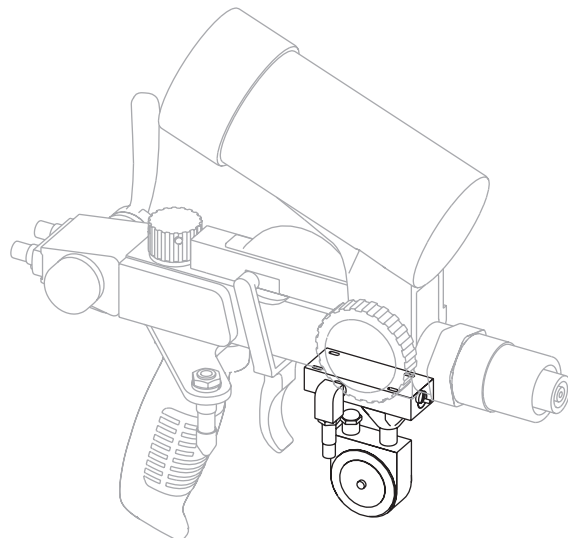
Metco 5PT-II-1	305 mm	(1 ft)
Metco 5PT-II-2	610 mm	(2 ft)
Metco 5PT-II-3	910 mm	(3 ft)

Custom lengths are available upon request. Please refer to the Metco 5P-II Extension Module Product Data Sheet for additional information.

For a complete list of optional parts and spare parts, please refer to the parts lists section of the reference manual.



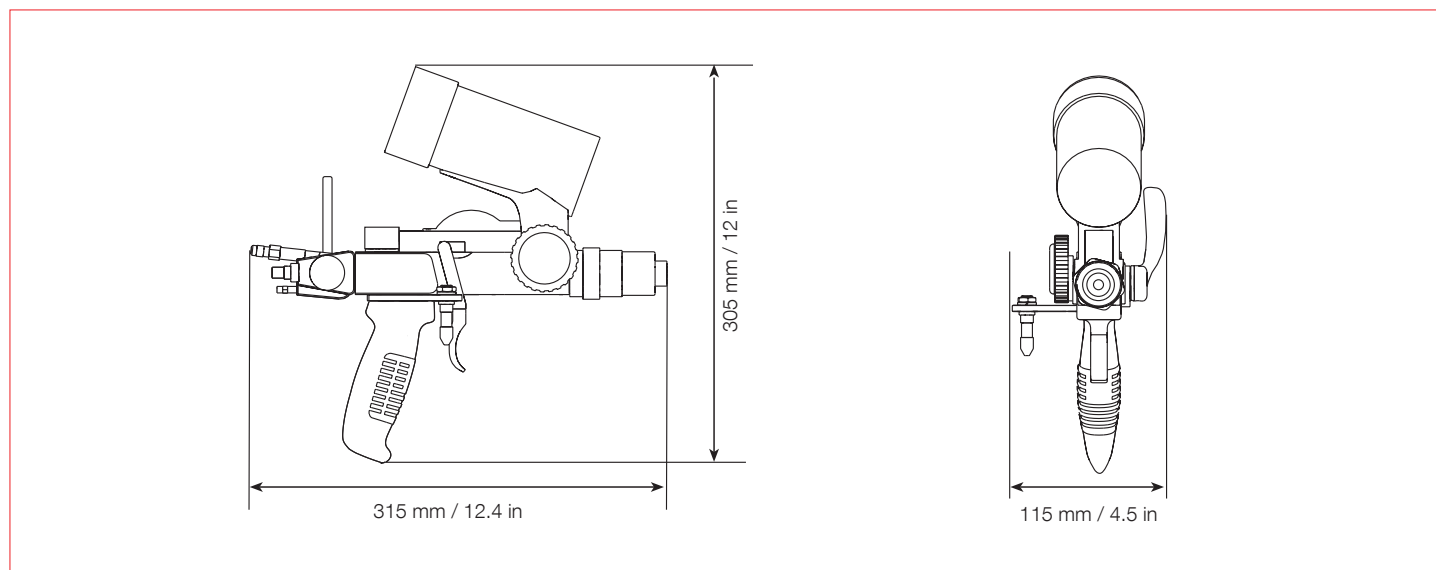
2PSA Air Jet



Metco 5P-II with Vibrator Unit

4 Technical Data

4.1 Dimensions



4.2 Specifications

Weight

Approx. with empty powder canister and without hoses	1.8 kg	4 lb
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Process gases consumption ^a

Acetylene	13.5 to 31.5 NLPM	30 to 70 SCFH
Hydrogen	90 to 144 NLPM	200 to 320 SCFH
Oxygen	20 to 45 NLPM	45 to 100 SCFH
Compressed air	0.85 m ³ /min at 4.5 bar	30 ft ³ /min at 65 psi

Air requirements ^b

Standard air cap	0.69 to 1 bar	10 to 15 psi
Pinch air cap	0.35 bar max.	5 psi max.
Cooling air cap ^a	0.69 to 1.38 bar	10 to 20 psi
Air jet assembly ^a	3.5 to 6.2 bar	50 to 90 psi

^a Dependant on specific coating application, gun hardware and coating material applied.

^b Clean, dry and oil-free

Information is subject to change without prior notice.