

Product Data Sheet

Metco 3MB Series Plasma Spray Guns

The Metco™ 3MB series plasma spray guns are well-known by the thermal spray industry for their reliability and the choice of thousands of customers worldwide.

Metco 3MB series plasma guns are general purpose devices that produce high quality, consistently repeatable thermal sprayed coatings.

The Metco 3MB series plasma guns are a long-standing benchmark of the industry and highly regarded for their rugged, dependable performance. Many OEMs have selected these guns for various coating application specifications.

These updated Metco 3MB series guns improve on earlier versions of the Metco 3MB by providing both machine-mount and hand-held capability, with an emergency stop switch in the handle on the 3MBH hand-held plasma gun.

Engineered for reliable performance and troublefree operations, the Metco 3MB series is capable of depositing high-quality coatings of plasma sprayed metal, metal alloys, carbides, composites, blends, cermets, abrasives and ceramic powders.

Customers can be sure that their Metco 3MB series guns will operate with reliability and confidence. Oerlikon Metco spare parts are manufactured at our ISO 9001-certified plants, with constantly monitored quality control procedures. Quality spare parts, OEM-designed for increased service life and safety, assures increased productivity.

Available Models:

Model	Operation	CE-Conformant
3MBM	Machine-mount	Yes
3MBH	Handheld	No



Metco 3MBM – Machine-Mounted



Metco 3MBH – Handheld

1 General Description

Modular construction allows for ease in maintenance with simple and fast changeover of hardware and gun components.

The 3MB series guns are widely utilized throughout the thermal spray industry and have been selected as the equipment of choice under various coating application specifications. Gun hardware has been designed for versatile, safe and easy operation.

When changing from one spray material or plasma gas to another, the switchover is fast; nozzles and electrodes are plug-in, pullout assemblies and there is no alignment or adjustments required when replacing nozzles and electrodes.

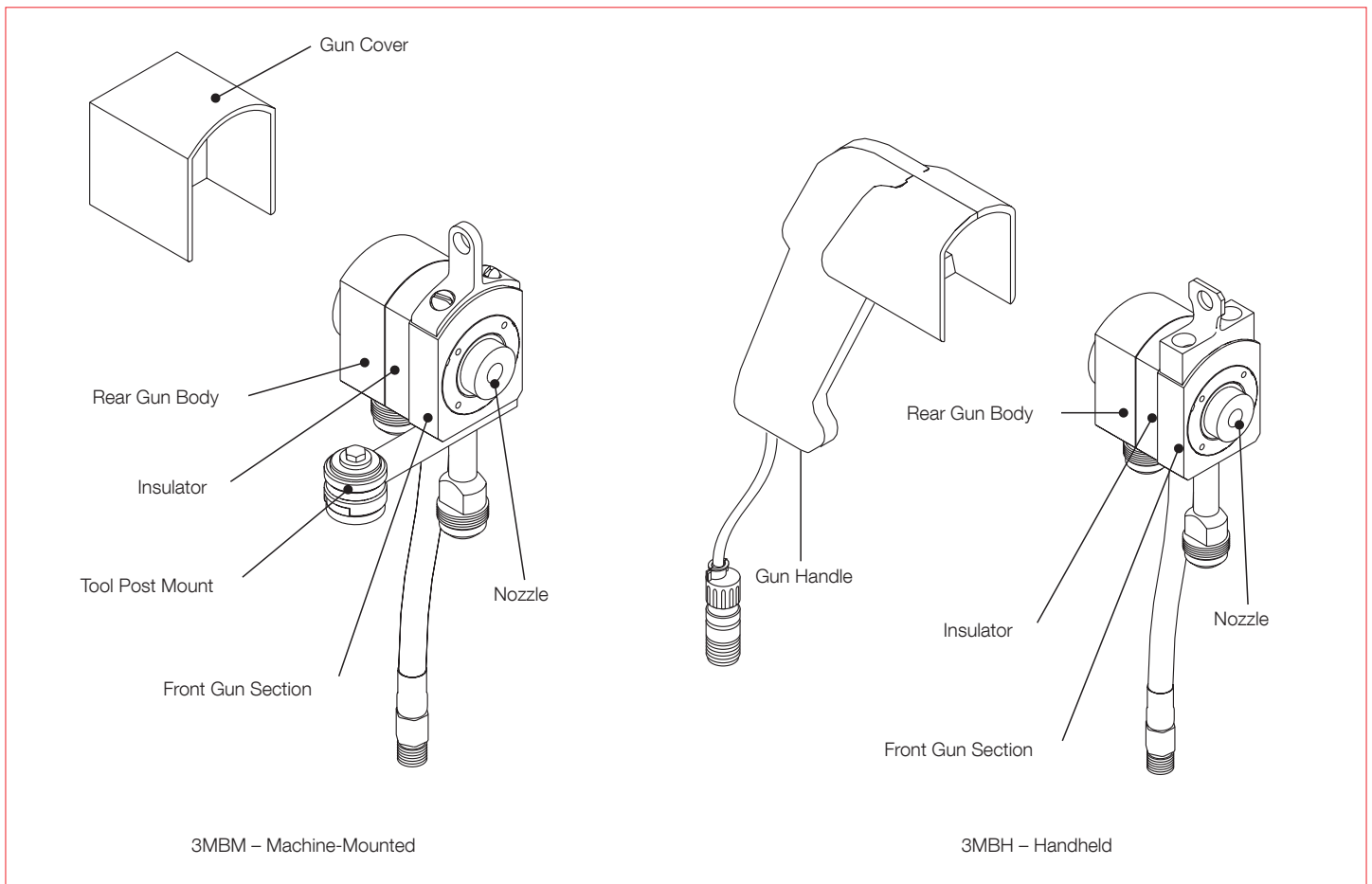
Water-cooled cables are attached to the bottom of the gun to allow for balance and to prevent interference in close-up

spraying applications. These cables cannot be cross-connected due to right-hand and left-hand thread design.

Heavy plastic insulators are provided to protect the operator from electrical shock. The removable handle of the 3MBH plasma gun can be replaced with an optional gun cover kit for machine-mount operation.

Conversely, a 3MBM can be converted into a 3MBH by replacing the cover with an optional handle assembly and electrical connection cable.

The handle assembly can be utilized as a remote powder feeder on/off switch and includes an emergency stop switch which allows the operator to quickly shut the plasma system down from the remote spraying position.



2 Features and Benefits

- Power Capability: optimum performance at levels of 40 kW (100 % duty cycle)
- High heat output capabilities: plasma gas temperatures up to 16000 °C (28880 °F)
- High plasma gas velocity: in excess of 3050 m/s (10000 ft/s)
- High particle velocities: up to 610 m/s (2000 ft/s)
- Long life gas insulators: fabricated from heat resistant plastic, which insures durability and uniform gas flows at all power levels
- New gas distribution ring: provides improved nitrogen gas flow
- Simple, versatile design: allows for a broad range of application capabilities
- Compact size: easily adapted for close-in spray work and

complex geometry applications

- Ease of operation, maintenance and installation: ideally suited for general purpose and advanced coating applications
- SCR compatible: operates with SCR (silicon controlled rectifier) power supply units
- Complete range of nozzle and powder port components: accommodates the majority of coating material and operation needs
- Operational with nitrogen as the primary plasma gas: offers economical operation with high heat output
- CE-conformity: the 3MB series plasma gun meets European safety and operation requirements and is CE-conformant (3MBM models only)

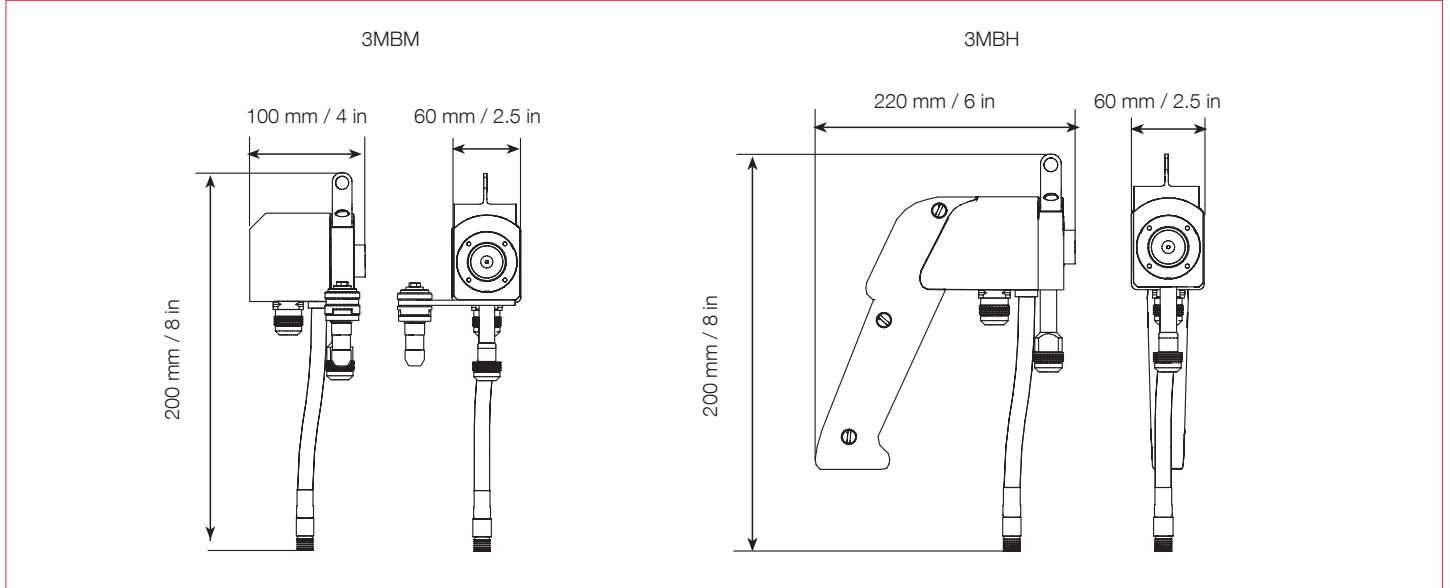
3 Accessories and Options

Oerlikon Metco offers a wide variety of accessories and options for Metco 3MB series spray guns to suit specific spray requirements. These include nozzles, electrodes, pow-

der port assemblies, air cooling jets, cables and hoses. For a complete list of optional parts and spare parts please refer to the parts lists section of the reference manual.

4 Technical Data

4.1 Dimensions



4.2 Specifications

Power rating

100% duty cycle	40 kW
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Weight

3MBM	1.5 kg	3.3 lb
3MBH	2.3 kg	5 lb

Cooling Water

Inlet temperature (all 3MB)	18 °C	65 °F
Inlet pressure (all 3MB)	9 bar	130 psi
Flow (all 3MB)	16 l/min	5 gal/min

Cooling Water Quality

Total hardness	0.5 Grade F 0.35 Grade E 0.28 Grade D
Conductivity	< 10 µS/cm
ph Value	6.6

Plasma Gas Purity

Nitrogen	99.7%
Argon	99.95%
Hydrogen	99.995%
Helium	99.995%

Plasma Controller

Compatibility	MultiCoat™ UniCoat™ 9MC, 9MCE
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Powder Feeder

Compatibility	all Oerlikon Metco powder feeders
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Information is subject to change without prior notice.