

Product Data Sheet

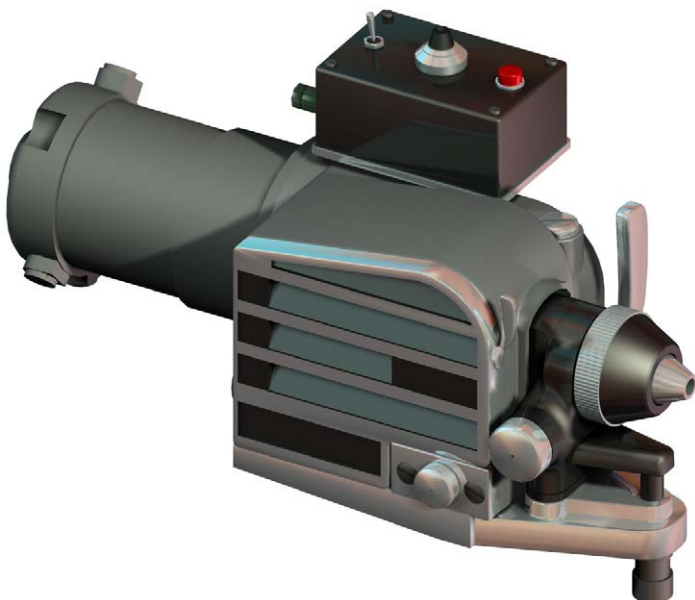
Metco 5K Series Machine-Mount Combustion Wire Spray Guns

The Metco™ 5K Series of combustion wire spray guns is designed for high volume production in an automated environment. They operate reliably and economically, with minimal downtime.

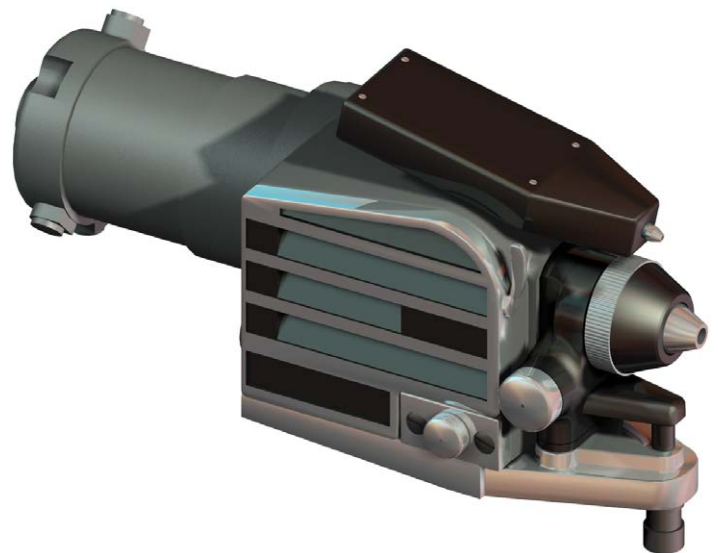
When a heavy-duty gun is required for high-volume or continuous combustion wire flame spray production, the Metco 5K gun series provides excellent performance. These guns are built for automated, mass production environments, having been designed to spray continuously for long periods while maintaining constant coating quality. When maintenance is required, the Metco 5K series guns can be serviced quickly and simply, returning to production with minimal downtime.

Besides the inherent robustness of the Metco 5K combustion wire guns, they are also economical to operate. Oerlikon Metco know-how in gas head and wire feed design results in low gas consumption and highly efficient operation. Coupled with the ease of operation and simplified maintenance requirements, the Metco 5K series combustion wire flame spray guns are proven performers for any production environment.

Combustion wire spray systems using a Metco 5K series gun are an excellent choice for mass production coatings for synchroizer rings, piston rings, tube mill applications, shifter forks, sliding wear applications requiring self-lubricating properties and high-volume corrosion coating applications.



Metco 5K / Metco 5KE Wire Combustion Spray Gun



Metco 5K-6C / Metco 5KE-6CE Wire Combustion Spray Gun
(shown with optional Flame Detector)

1 General Description

Four models of the Metco 5K wire combustion gun are available. The Metco 5K and the equivalent CE-conformant Metco 5KE model are designed for use with manual gas control systems. They are supplied with a gun-mounted controller that precisely controls the wire feed rate through the gun and provides instantaneous wire start and stop. The Metco 5K-6C and the equivalent CE-conformant Metco 5KE-6CE models are designed for use with Oerlikon Metco automated thermal spray systems having a controller that is capable of both automatic control of the process gases and the wire feed rate.

The durable housing on Metco 5K series guns is sealed to prevent contamination from the production environment, such as dust, grease and oil, assuring trouble-free operation. The gas head, which incorporates Oerlikon Metco's unique siphon plug design, is built for extended service life and is highly resistant to backfire. The powerful wire drive system, with its robust variable speed motor and transmission, delivers constant and smooth feed of the wire material throughout coating application.

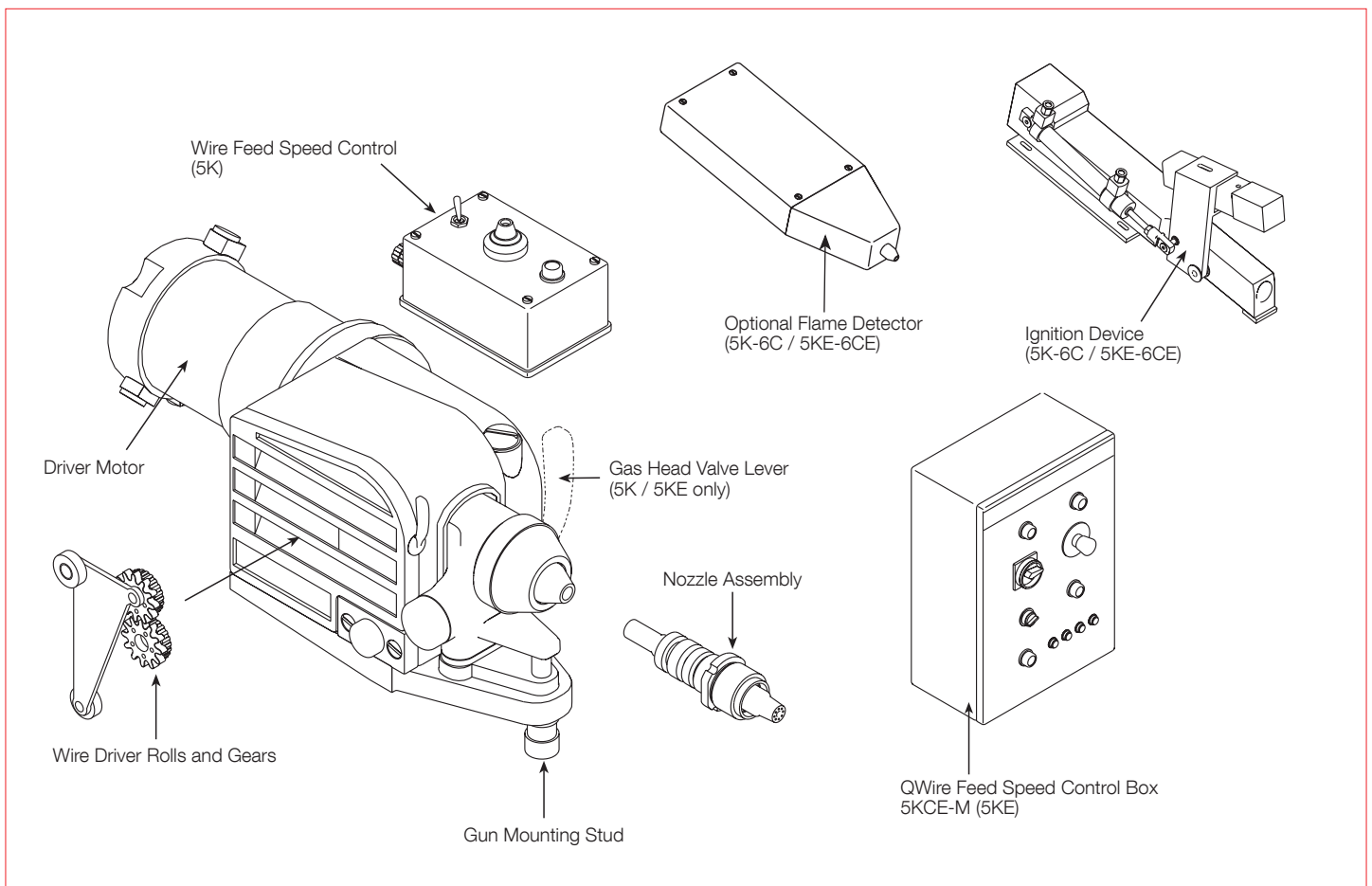
Metco 5K series guns can be configured to spray the full range of combustion wire materials, and are supplied ready

to spray the harder wire materials. Conversion to coating applications employing softer wires, such as pure aluminum, pure copper, babbitt, tin and zinc based materials, is accomplished quickly and easily with an optional "high speed" package.

Metco 5K wire guns come equipped to spray 3.175 mm (1/8 in) and 4.76 mm (3/16 in) combustion wire materials. However, should a different wire size be used, gun hardware for wires ranging in diameter from 0.813 mm (20 gauge) to 4.76 mm (3/16 in) is available.

All Metco 5K series guns are factory-configured for acetylene as the fuel gas. However, the Metco 5K series universal gas head design can be adapted to use other fuel gases. Customers can choose from a variety of fuel gases, including hydrogen, acetylene, propane, natural gas, MAPP or MPS using available optional gun hardware.

Metco 5K combustion wire spray guns should always be used with Oerlikon Metco controllers. Oerlikon Metco offers a large portfolio of wire materials optimized for the combustion wire spray process. Use of these materials will provide the best results.



2 Features and Benefits

- Heavy duty, rugged design: Built for production environments where trouble-free operation is a must
- Simple operation: Requires minimal operator training
- Flexible wire choices: Can be configured for use with hard or soft wires in a variety of diameters
- Flexible fuel gas choices: Suits plant operational requirements and economics
- Extra-sturdy tool post: Ensures the gun will remain in its set position
- Unique universal gas head: Produces high spray rates with low gas consumption and is resistant to backfire
- Gas head valve handle: Allows instant start / stop of gas through the gun
- O-ring sealed between nozzle and siphon plug: Ensures safe and reliable operation and simplifies gun maintenance
- Precision wire feed control: Provides precise control of wire feed rate and wire start and stop on 5K and 5KE gun models
- Dependable wire drive: Regardless of fluctuations in air pressure and wire drag for constant, uniform feed of coating material
- Long gear life: Designed with large, rugged gears coupled with circulating gear lubricant pump that rarely needs servicing
- Built-in sight plug: Visually check level of lubricant without the need to open the gear case
- Simple maintenance and hardware changeover: The nozzle, siphon plug and front wire guide assemblies can be easily removed and replaced as a complete unit

3 Accessories and Options

Oerlikon Metco offers a variety of options that allow configuration of a Metco 5K series gun for use in a wide number of coating applications and to suit specific production requirements.

These include drive rolls and gears, hoses, nozzles, siphon plugs and wire guides. Air caps are available to achieve various spray patterns and angles.

Extension Modules:

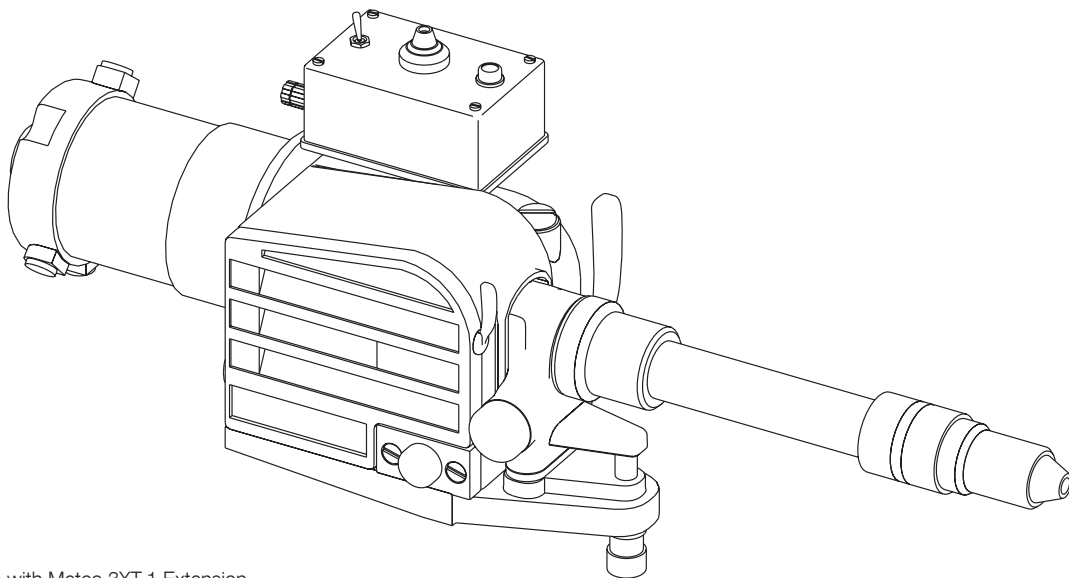
Extension modules for Metco 5K series guns permit coating of interior bore diameters and surfaces.

They are available in four lengths:

| | | |
|--------------|----------|------|
| Metco 5XT-6: | 152.5 mm | 6 in |
| Metco 3XT-1: | 305 mm | 1 ft |
| Metco 3XT-2: | 610 mm | 2 ft |
| Metco 3XT-3: | 915 mm | 3 ft |

Please refer to the Metco 5XT / Metco 3XT Extension Module Product Data Sheet for additional information.

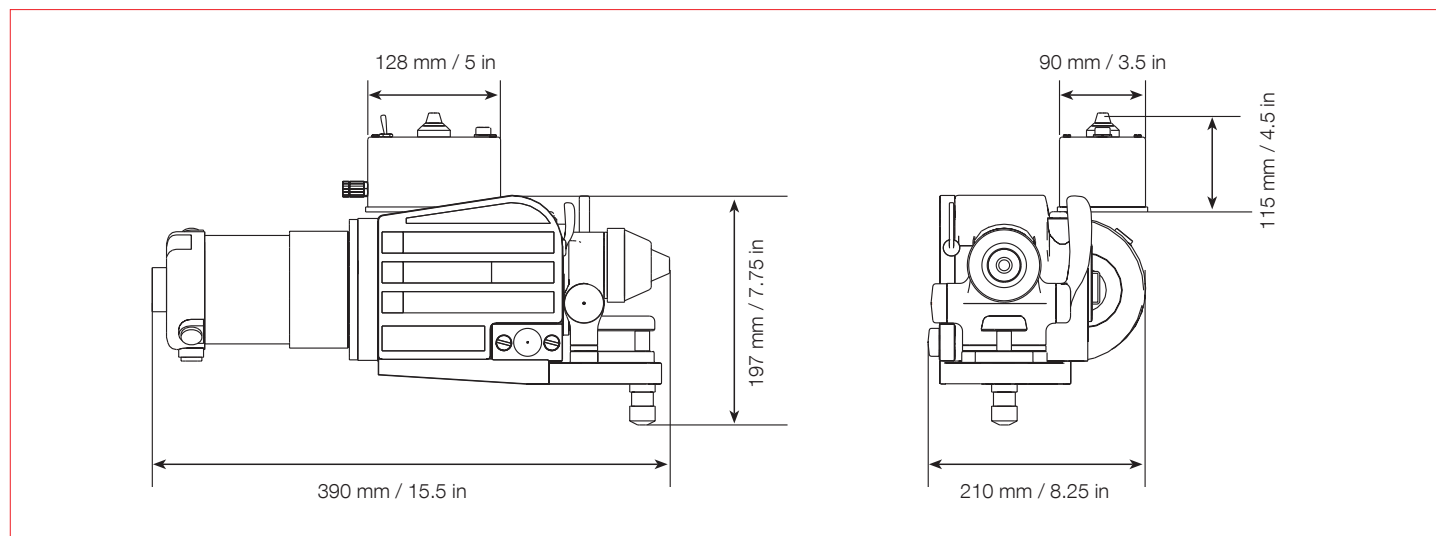
For a complete list of optional parts and spare parts, please refer to the parts lists section of the reference manual.



Metco 5K shown with Metco 3XT-1 Extension

4 Technical Data

4.1 Dimensions



4.2 Specifications

Coating Materials

| | | |
|------------------|---|---------------------|
| Wire sizes | 0.813 to 4.76 mm | 20 gauge to 3/16 in |
| Wire composition | all Oerlikon Metco hard and soft combustion wires | |

Weight

| | | | |
|-------------|--------------------------|-------|-------|
| Approximate | without hoses and cables | 10 kg | 22 lb |
|-------------|--------------------------|-------|-------|

Process gases

| | | | |
|----------------|--|---|---|
| Fuel gases | Acetylene, hydrogen, propane, MPS, MAPP or natural gas (methane) | | |
| Oxygen | | | |
| Compressed air | dry and oil free | 0.6 m ³ /min at 3.4 to 4.5 bar | 20 ft ³ /min at 50 to 65 psi |

Noise levels ^a

| | |
|-------------------|---------|
| Acetylene | 114 dBA |
| Propane, MPS | 118 dBA |
| Propane, non-load | 125 dBA |

^a Appropriate noise protection should be employed at all times

Information is subject to change without prior notice.