

## Product Data Sheet

### Metco 6C / 6CE / 6CEW

#### Controllers for the Combustion Spray Process

The Metco™ 6C family of controllers automates control, operation and monitoring of the powder or wire combustion spray process.

Using computerized logic circuitry, the unit is capable of gun ignition, adjustment of the gun flame to preset parameters and automatic start of material feed. During operation, the unit continuously monitors the pressures of the fuel gas, oxygen and air supply. It also monitors the flame. The 6C is capable of safely shutting down the entire spray system should any of these parameters change beyond safe operating levels, including system shutdown should the gun fail to light or flame out during operation.

An easy to read LED message display allows the operator convenient monitoring of system operation and alarm conditions. Self-diagnostic messages are displayed during alarm conditions that identify the type of fault preventing normal operation.

Workpiece handling equipment, gun manipulation equipment, exhaust systems and accessory controls can also be interfaced to the 6C.

A unique "Master / Slave" function permits the control of multiple 6C units from a single operator position in installations where multiple guns spraying simultaneously are needed to meet production requirements.



6CE / 6CEW Combustion Spray Controller



6C Combustion Spray Controller

## 1 General Description

Oerlikon Metco offers three models of the 6C family of controllers. The 6C controller model is designed for use in facilities where CE-conformance is not required. The 6CE is a CE-conformant unit configured for powder combustion spray operations. The 6CEW model controller, also CE-conformant, is configured for wire combustion spray. Customers who do not require CE-conformance who intend to use their 6C unit for wire spray should specify the 6C unit be factory configured for combustion wire spray operation.

Acetylene, hydrogen, MPS, MAPP, natural gas (methane) or propane can be selected as the fuel gas, as appropriate for the coating application and the Oerlikon Metco combustion

powder or wire gun being employed. Air, oxygen and fuel gas flow is set on precision rotameters. Once set, the unit can be turned off and back on and return to the same process gas flow settings.

Coating material operation is also controlled. For powder combustion operation (model 6C or model 6CE), the unit will interface with standard stand-alone Oerlikon Metco powder feeders and provides start and stop of the powder from the controller. For wire operation (model 6C configured for wire spray or model 6CEW) the unit can start and stop the feed of wire and controls the speed of wire feed.

Features	6C	6CE	6CEW
Gun Compatibility	6P-II-A, 5K-6C <sup>a</sup>	6P-II-A	5K-6CE
Powder Feeder Compatibility	5MP, 9MP	9MPE	—
Wire Start / Stop and Speed Control Location	Panel Mounted <sup>a</sup>	—	5KCE-A Module <sup>b</sup>
Console Fuel Gas Leak Detector	No	Yes	Yes
Master / Slave Capability	Yes	Yes <sup>c</sup>	Yes <sup>c</sup>
Ignition Type	Spark Igniter	Glow Plug	Glow Plug
Message Center	Yes	Yes	Yes
Languages Available <sup>d</sup>	English	English, French, German, Spanish	English, French, German, Spanish
Self-Diagnostics	Yes	Yes	Yes
Alarm and Automatic Safe Shutdown Capability	Yes	Yes	Yes
E-Stop Capability	Yes	Yes <sup>e</sup>	Yes <sup>e</sup>
Interfaces to Control Additional Equipment	Yes	Yes	Yes
CE-conformant	No	Yes	Yes

<sup>a</sup> Please specify combustion wire operation when ordering

<sup>b</sup> Mounts on the side of console

<sup>c</sup> Includes lockout key switch that prevents change of settings

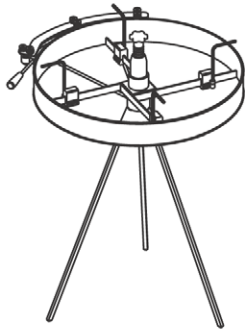
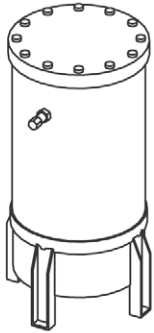
<sup>d</sup> For languages other than English on Models 6CE and 6CEW, please specify when ordering

<sup>e</sup> With CE-Conformant Safety Relay Module

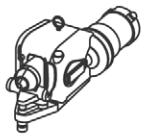
## 2 Features and Benefits

- Automation: provides automated operation, control and monitoring of the powder or wire combustion spray process.
- Controls the entire spray process: including powder or wire feed, gun and workpiece handling equipment, exhaust system and user-defined accessory equipment.
- Simple operation: requires minimal operator training.
- Message center: with easy to read display, provides system status and diagnostics.
- Safe, reliable operation: unit provides audible alarms and safe shutdown of spray system. Also employs an integrated E-stop for emergency shutdown by the operator.
- Cost effective: reduces operating costs through automatic start / stop of the spray material and processes gases for efficient operation.
- Consistent coating quality: reliably assures the proper spray conditions.
- Multi-system operation: unique Master / Slave function allows multiple units to operate simultaneously from a single operation station.
- Automatic ignition: included ignition system lights the gun automatically.
- Flame monitoring: included flame detector checks for successful ignition and guards against flame-out during operation.
- Fuel gas leak detector: enhances safe operation (included with CE-conformant units only).

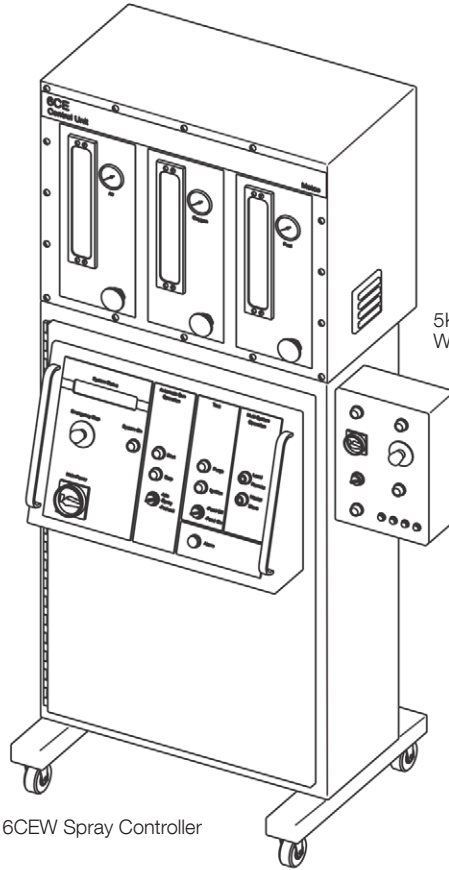
4AC Air Cleaner



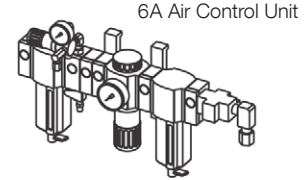
2W Wire Control Unit



5KE-6CE Wire Combustion Spray Gun

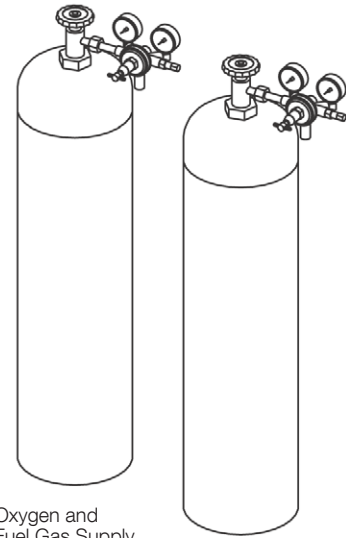


6CEW Spray Controller



6A Air Control Unit

5KCE-A  
Wire Control Unit



Oxygen and  
Fuel Gas Supply  
with CE Gas Regulators

Typical Wire Combustion Spray System with 6CEW Spray Controller

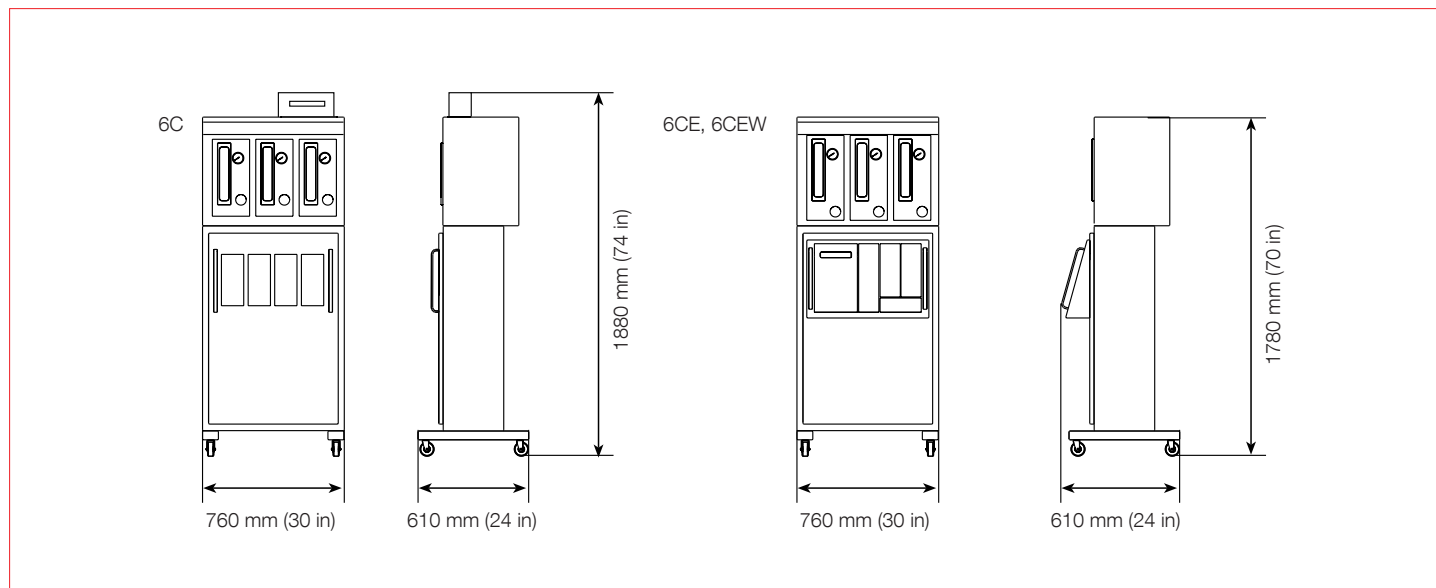
### 3 Accessories and Options

Oerlikon Metco offers a wide portfolio of system components and options to customize 6C combustion spray systems for specific customer requirements.

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

#### Process gases

Acetylene, hydrogen, propane, MPS, MAPP, natural gas (methane)

#### Process gas consumption

Acetylene

6P-II-A	7 to 23 NLPM	16 to 50 SCFH
5K-6C, 5K-6CE	25 to 31 NLPM	55 to 70 SCFH

Hydrogen

6P-II-A	108 to 180 NLPM	240 to 400 SCFH
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Propane

5K-6C, 5K-6CE	7 to 20 NLPM	15 to 45 SCFH
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Oxygen

6P-II-A	18 to 45 NLPM	40 to 100 SCFH
5K-6C, 5K-6CE	18 to 90 NLPM	40 to 200 SCFH

Nitrogen (carrier gas)

4MP, 9MP, 9MPE	9 NLPM at 3.8 bar	20 SCFH at 55 psi
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Compressed air <sup>a</sup>

	0.85 m <sup>3</sup> /min at 450 kPa	30 ft <sup>3</sup> /min at 65 psi
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Electric power requirements

6C	110 to 120 V, single phase, 50/60 Hz
6CE, 6CEW	110 / 220 / 240 V, single phase, 50/60 Hz

<sup>a</sup> clean, dry and oil-free

Information is subject to change without prior notice.