

## Product Data Sheet Metco MC HE

**The Metco™ MC HE is a highly reliable, efficient heat exchanger with a built-in water treatment system for the cooling needs of the entire range of Oerlikon Metco plasma and water-cooled HVOF spray guns.**

The Metco MC HE is a powerful 90 kW (307 000 btu/h) capacity heat exchanger. It requires only one-half the space, but delivers up to five times the heat transfer capacity of older shell-and-tube models. Metco MC HE has a powerful high-pressure pump, and its own chemical water treatment system constructed entirely of non-ferrous materials to deliver the purest water possible to the plasma gun.

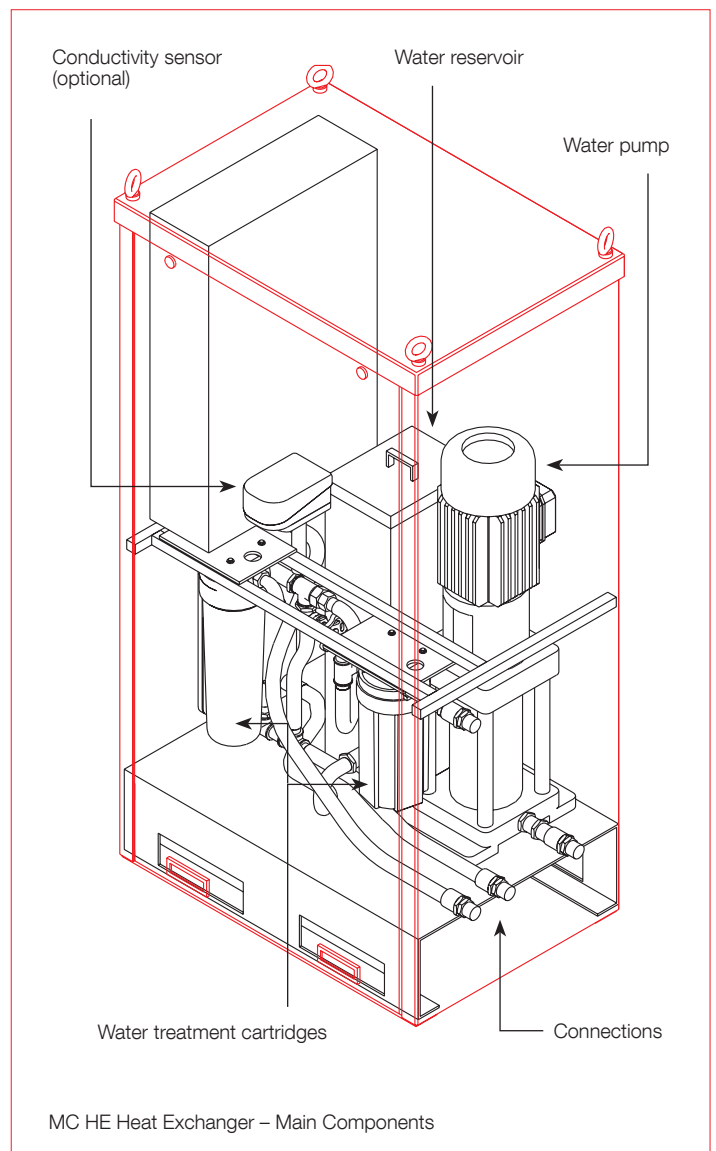
Metco MC HE units are CE conformant.



MC HE Heat Exchanger

### 1 Description

#### 1.1 Construction

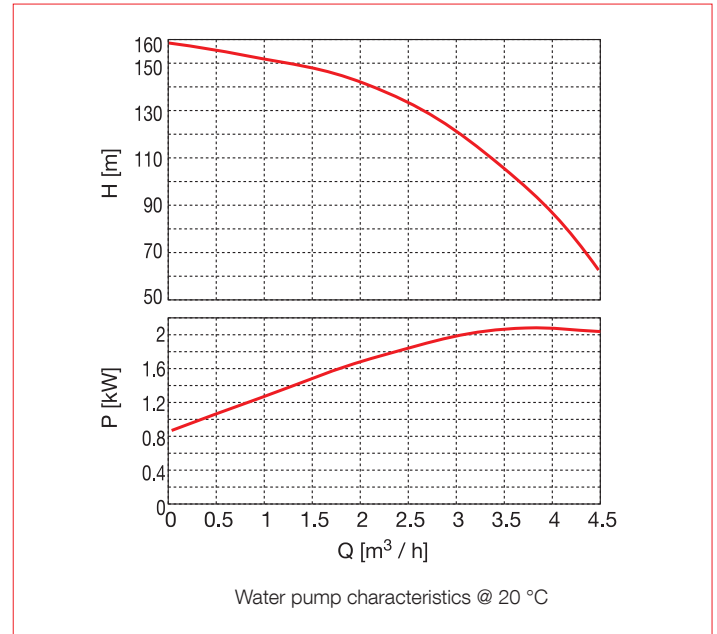
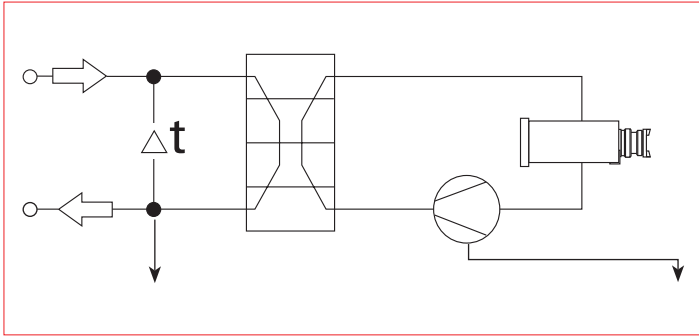


MC HE Heat Exchanger – Main Components

## 1.2 Configurations

Model	Description	Order No.
MC HE	400/460 V, 50/60 Hz Includes deionizer and frequency converter	1072141
MC HE Plus	400/460 V, 50/60 Hz Includes deionizer, conductivity sensor, frequency converter and wheels	1079075
MC HE Reinforced Plus	400/460 V, 50/60 Hz Includes deionizer, conductivity sensor, frequency converter, wheels and reinforced, high-capacity pump	1092537

## 1.3 Operating parameters



## 2 Features and Benefits

### Effective

- Designed specifically for the cooling requirements of thermal spray processes

### Efficient

- Large cooling capacity efficiently cools all plasma spray guns, including entire range of older guns
- High pressure pump maintains operational windows of plasma guns or water-cooled HVOF guns
- Ergonomically designed for ease of installation and operation
- Built-in water treatment removes dissolved oxygen, dissolved solids, calcium scale, salts and organics to ensure longer gun component life
- Process stability through precise control of cooling water temperature
- All heat exchanger functions are controlled, set and monitored at the heat exchanger user interface or through the MultiCoat system platform for simple operation and setup

- Multi-level alarm system for safety with diagnostic and operational alarms and warnings
- Double panel doors provide quick access for easy maintenance

### Economical

- Metco MC HE units offer a low-cost yet highly effective solution for cooling thermal spray circuits
- Energy conscious design for low cost of operation
- Simple, robust construction combined with premium quality components requires little maintenance and provides years of trouble-free service
- Spare parts and service support are readily available worldwide

### Environmental

- Extremely compact footprint minimizes shop floor requirements

### 3 Options and Accessories

#### Water Supply Hoses

Description	Order No.
CLHE57497 Water Supply Hose 4.75 m (15 ft)	1022130
CLHE58073 Water Supply Hose 7.60 m (25 ft)	1040566
CLHE57656 Water Supply Hose 9.75 m (32 ft)	1034469
CLHE58061 Water Supply Hose 15.2 m (50 ft)	1050540

#### Water conditioning

Description	Order No.
Conductivity sensor <sup>a</sup>	1076966
Deminerlization Catridge	1076477
Filter Cartridge RB50-BB	1076948

<sup>a</sup> Not required for MultiCoat systems as sensor is built into the JAM Box

#### Fittings to adapt CLHE and 9MCD622 water hoses to MC HE

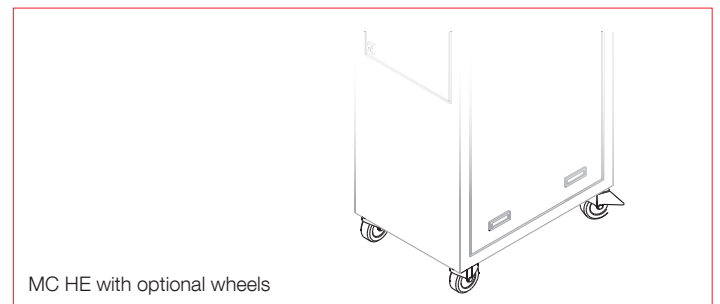
Description	Order No.
8MW23 Hose Fitting Package	1002425
7MC645 Elbow Fitting Package	1076933

#### Fittings to connect MC HE water hoses to Climet RC

Description	Order No.
1 in to 3/4 in pipe fitting (2 required)	1062107

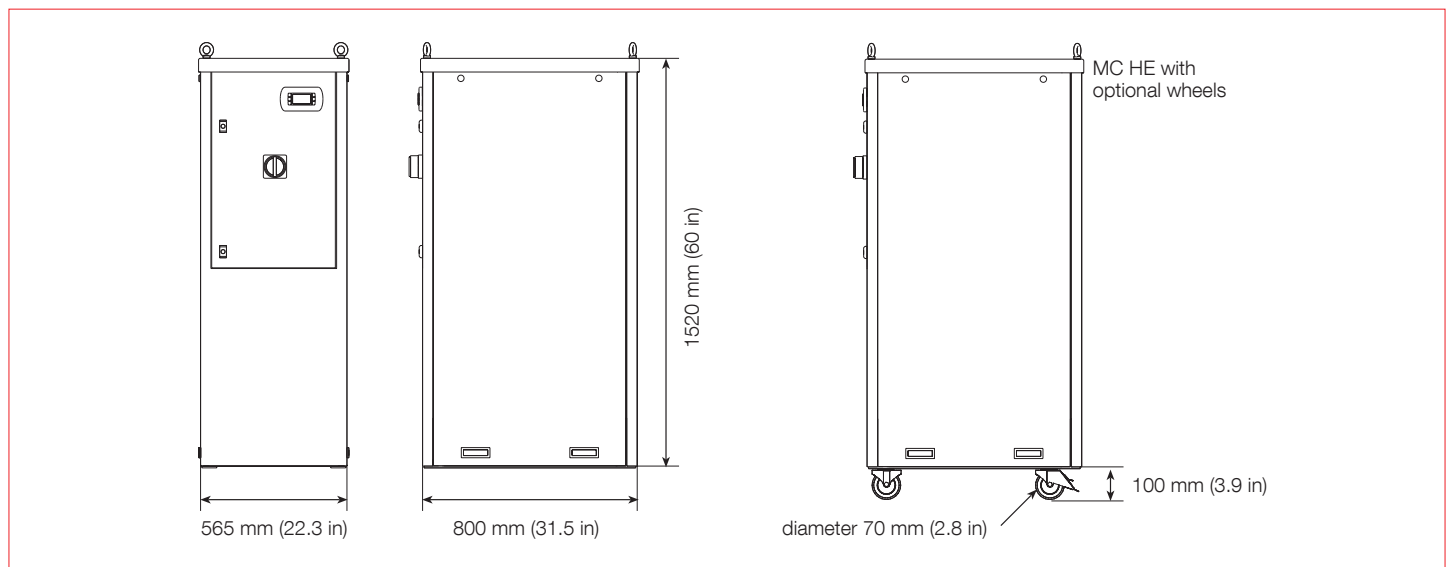
#### Other Options

Description	Order No.
Wheels	1078536
Electrical Kit	1068900
I/O Module for Controller Communication	1072189



### 4 Technical Data

#### 4.1 Dimensions



## 4.2 Specifications

<b>Weight</b>			
Weight	without water	200 kg	441 lb
<b>Performance</b>			
Cooling capacity	max	90 kW	307 000 btu/h
<b>Power grid</b>			
Power consumption		2.2 kW <sup>a</sup>	
Current		5.7 A <sup>b</sup>	
Voltage		3 x 400 to 500 V -1.5% / +10%	
Voltage from transformer		24 VAC	
Frequency		50 to 60 Hz	
<b>Plant water circuit</b>			
Flow rate			
Pure water		70 l/min at 1 bar	18.5 gal/min at 14.5 psi
34 % glycol + 66 % water		84.1 l/min at 1 bar	22.2 gal/min at 14.5 psi
Inlet pressure	min	1 bar	14.5 psi
Operating water temperature range	max	+18 °C	+64.4 °F
Pipe connections, inlet and outlet		1 in	
<b>Gun water circuit</b>			
Flow rate	demineralized water	30 l/min at 17 bar <sup>c</sup>	7.9 gal/min at 247 psi <sup>c</sup>
Pump pressure		17 bar	247 psi
Operating water temperature range		+20 to +25 °C	+68 to +77 °F
Pipe connections, inlet and outlet		3/4 in	
Water reservoir		27 l	7 gal
<b>Demineralization cartridge</b>			
Dimensions	$\varnothing \times l$	114 x 508 mm	4.5 x 20 in
Capacity grains		1850	
Total Dissolved Solids (TDS)	as CaCO <sub>3</sub>	120 000 mg	
Typical time for demineralization	bypass open	55 min from 50 to 5 ΔS at 4.5 l (1.2 gal)	
<b>Environmental conditions</b>			
Temperature		+5 to +50 °C	+41 to +122 °F
Humidity		< 75 % (non-condensing)	

<sup>a</sup> 3 kW for MC HE Reinforced Plus

<sup>b</sup> 6.1 A for MC HE Reinforced Plus

<sup>c</sup> 30 l/min at 20.5 bar (8 gal/min at 297 psi) for MC HE Reinforced Plus

Information is subject to change without prior notice.