

## Product Data Sheet Metco ECO ARC 600 Electric Arc Spray System

**The Metco™ ECO ARC 600 Electric Arc Spray System is a powerful, yet compact, unit for applying high quality, corrosion protection coatings of zinc, zinc-aluminum, aluminum and aluminum-magnesium.**

The ECO ARC 600 system, with its 600 A output capability, is designed to apply high quality corrosion coatings quickly, saving valuable time on the job site. The unit is very sturdy and virtually trouble-free, and well-suited to on-site coating work.

ECO ARC 600 meets CE standards and is recommended to apply on-site corrosion protection coatings for applications such as:

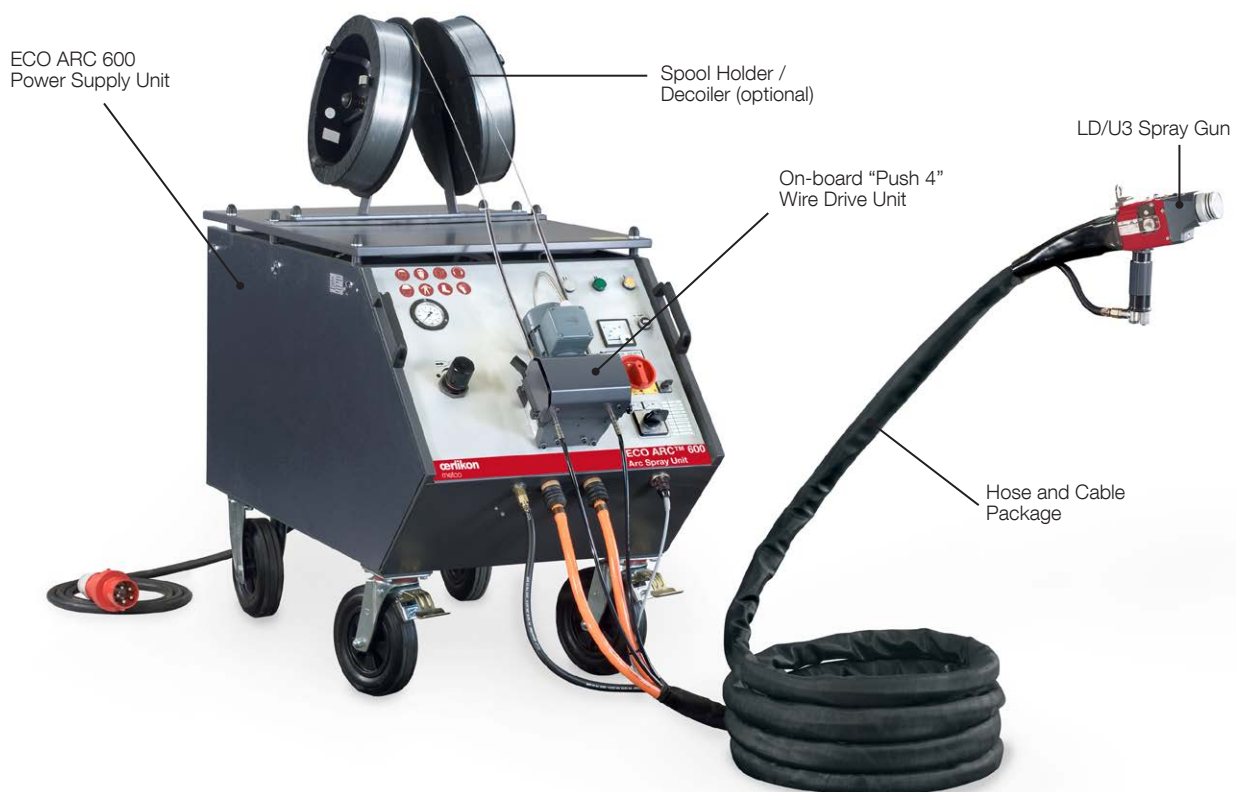
- Off-shore structures
- Marine structures
- Tanks for gas and fuel storage farms
- Steel structures
- Steel-reinforced concrete structures

### 1 Description

The ECO ARC 600 Electric Arc Spray System comes equipped with all hoses and cables, and is composed of four modules:

- ECO ARC 600 Power Supply with on-board Push 4 Wire Drive Unit
- Hand-held LD/U3 Spray Gun with integrated operator safety handle
- 8 m (26.2 ft) Hose and Cable Package, including insulated wire guides
- Spool or drum holder / decoiler device (optional)

The wheeled system can also be used in shop and is easily moved from place to place.



### 1.1 ECO ARC 600 Power Supply

The ECO ARC 600 power supply is designed to be easily maneuvered, whether used on-site or in the shop because of its low height and large wheels. The unit has been specifically engineered to meet the requirements of the electric arc thermal spray process, delivering the system-rated arc current of 600 A at 100 % duty cycle. PLC (programmable logic control) ensures accuracy and repeatability of the system settings.

All control elements and displays are clearly arranged on the front panel, which is inclined at 45° for easy viewing by the operator. The hose and cable connections are positioned at a 45° decline, to reduce stress and prevent damage to the fittings or power supply.

The on-board wire drive unit employs a push-type motor to reliably transport the coating wire feedstock material to the spray gun.

The internal electrical control elements are well-protected from the environment and spray dust. Convection cooling prevents spray dust getting into the power supply, decreasing the possibility of electrical shorts from metallic dust contamination. The power supply and the push motor are protected against overloading, overheating and air pressure drops. In addition, error indicators help the operator to troubleshoot any problems that may occur.

### 1.2 LD/U3 Spray Gun

The LD/U3 Wire Spray Gun is light and designed for safety. Ergonomically designed and weighing only 3 kg (6.6 lb), it is equipped with an integrated safety handle to prevent injury to the operator or others if the gun is dropped. The gun has low wear part requirements and is designed for long spray campaigns with very low maintenance.

Easily accessible buttons on the top of the spray gun allow the operator to instantly start and stop the spray process. A powerful air motor built into the gun augments the feed of wires from the "Push 4" Wire Drive Unit mounted on the power supply unit.

The LD/U3 is equipped with a closed-nozzle system and an air cap that produces very fine spray particles, which result in smooth coatings with extremely low porosity. The low surface roughness can reduce follow-on paint over-coatings by as much as 40 %.

## 2 Features and Benefits

### Effective

- Applies high-quality corrosion protection coatings of zinc, zinc-aluminum, aluminum and aluminum-magnesium.
- Configured for use on-site or in shop.
- Applied coatings are low porosity and smooth with high bond strength.
- Power supply operates at 600 A, 100 % duty cycle, without overheating or overloading.

### Efficient

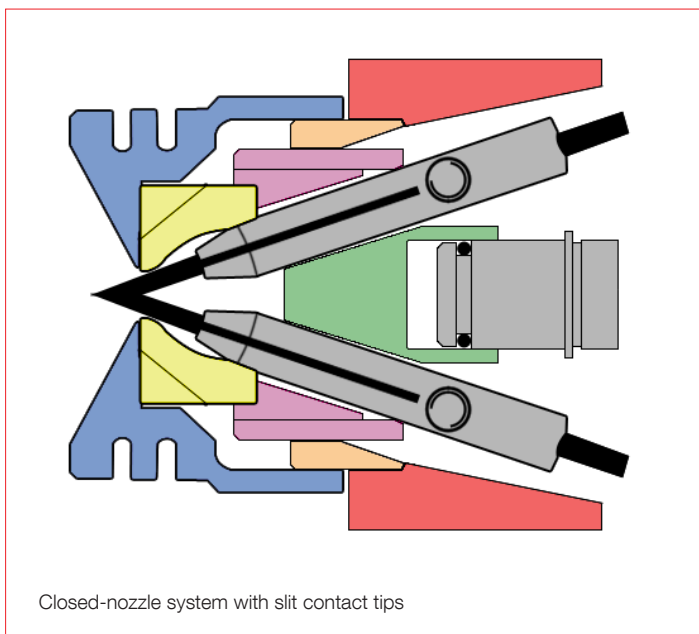
- High power unit gets large jobs done quickly.
- Simple to use and maintain.
- Easy to read front panel display.
- PLC control for precision and repeatability.
- Hand-held, lightweight gun for long spray campaigns.
- Accessible buttons on gun for quick start/stop of the spray process.

### Economical

- Fan-free, convection-cooled power supply prevents contamination from overspray dust.
- Low wear part requirement with long-lasting contact tips
- Low coating surface roughness reduces paint top-coat requirements by up to 40 %.

### Environmental

- Ergonomic gun design for operator comfort.
- Safety handle for increased operator safety.



### 3 Options and Accessories

Oerlikon Metco supplies a number of options for the ECO ARC 600 Electric Arc Spray System, including adapters for different spool types, spray kits for various materials, and air caps for different spray patterns. Please contact your Oerlikon Metco Sales Representative for more information.

**Spool Holder / Decoiler:** All customers should choose an appropriate spool holder / decoiler. This option holds the wire in place and ensures smooth guidance through the wire feed system. Available for hasp-style spools, dorn-style spools and drums.

**Spool Adapters:** Adapters are available for dorn-style spools, if desired, for ECO ARC 600 units with a hasp-style spool holder/decoiler.

### 3.1 Spray Kits

The Metco ECO ARC 600 Arc Spray System is versatile, and can be used with many different types of wires using optional Spray Kits. Customers can choose the spray kit configuration desired on a new arc system. All spray kits include the following hardware:

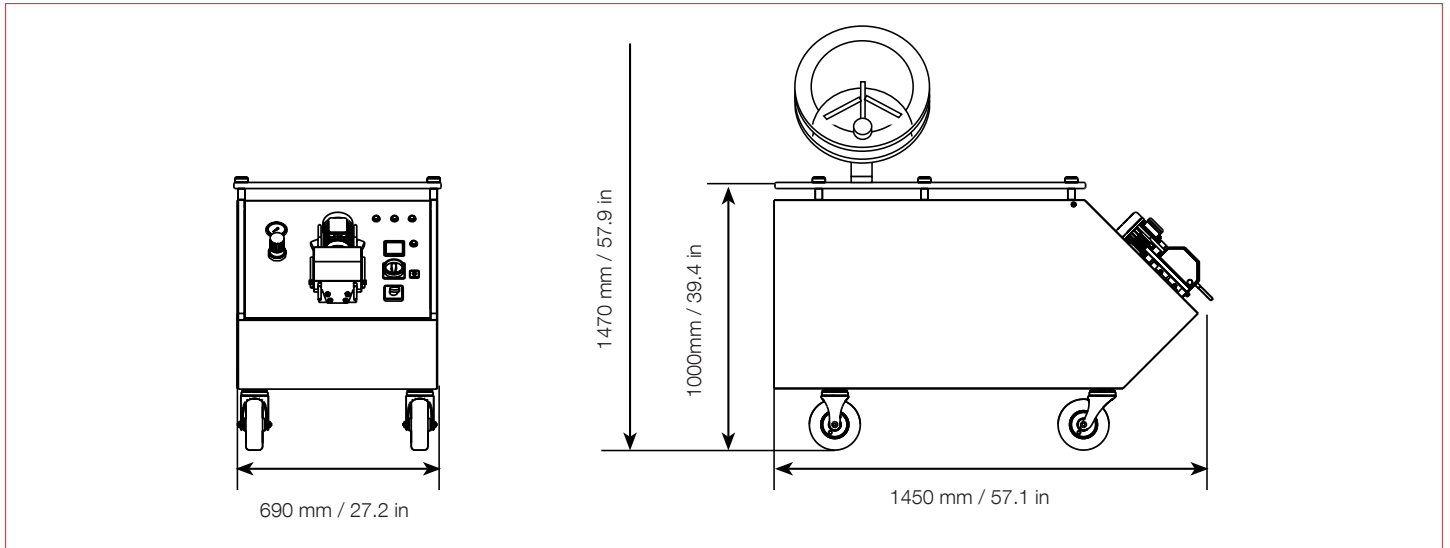
- One (1) air cap
- Two (2) contact tips
- Two (2) spray gun drive rollers
- Two (2) pair Push 4 drive and pressure rollers
- Two (2) pair wire guide tubes for use with the 8 m hose package

Spray Kit	Gun	Order Number	Wire Type	Wire Size
Soft Wire Spray Kit 1 <sup>a</sup>	LD/U3	1062684	Zinc, 85Zn/15Al, 95Al/5Mg	2.5 mm
Soft Wire Spray Kit 2	LD/U3	1062686	Aluminum	2.5 mm

<sup>a</sup> Standard with new equipment

## 4 Technical Data

### 4.1 Dimensions



## 4.2 Specifications

### Power supply

Weight (without spool holder)	405 kg 893 lb	405 kg 893 lb
Electrical requirements	400 V, 50/60 Hz	460 V, 50/60 Hz
Primary current	< 38 A	< 33 A
Fuse	50 A	50 A
Nominal power	< 24 kVA	< 24 kVA
Secondary current	600 A	600 A
Voltage	22 to 34 V	22 to 34 V
Open circuit voltage	26 to 39 V	26 to 39 V
Duty cycle (at full amperage)	100%	100%
Cooling	Ambient air - convection	Ambient air - convection

### Wire Drive Unit

### Push 4

Power (nominal)	0.09 kW
Speed control type	Inverter – 9 steps
Wire feed	2 slip rolls per wire

### Spray Gun

### LD/U3

Weight (with air motor)	3 kg 6.6 lb
Nozzle system	Closed nozzle system

### Air Requirements

Supply pressure (max.)	10 bar	145 psi
Atomizer air	1600 NLPM @ 5 bar	3652 SCFH @ 72.5 psi
Air motor air	550 NLPM @ 6 bar	1255 SCFH @ 87.0 psi
Air purity	Filtered, dry, oil-free, in accordance with DIN ISO 8573 Class 1	
Recooled air temperature (min.)	25 °C	77 °F

### Hose and Cable Set

Length	8 m	26.2 ft
Weight	15.6 kg	34.4 lb

### Wire Materials

Compatibility	All solid anti-corrosion (Zn, Zn/Al, Al/Mg) electric arc wires available from Oerlikon Metco in appropriate wire sizes	
Wire diameters	2.5 mm 0.098 in	
Spray rates		
Zn	60 kg/h	132 lb/h
85Zn 15Al	53 kg/h	117 lb/h
Al	18 kg/h	40 lb/h
95Al 5Mg	16 kg/h	35 lb/h

Information is subject to change without prior notice.