



# EUROBLAST MIDDLE EAST

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**UNIQUECOAT**  
technologies, llc

## ArcSpray twin-wire arc equipment

### Arc Spray Equipment

Uniquecoat Technologies, LLC is a manufacturer of a diverse range of thermal spray equipment, including twin-wire arc and HVAF-Arc wire spraying systems. Our equipment is the product of over 30 years of thermal spray R&D. We continue to innovate through ongoing research to enhance the performance of protective coatings and improve the efficiency of coating deposition methods. Our equipment is available through a worldwide network of distributors. We also work directly with our customers

to understand their specific needs and provide them with the best coating solution. Whether you require reliable twin wire arc systems, highest quality powder-based coatings, or complete "turn key" spray cells with multi-system integration, we can offer you flexible solutions tailored to your precise demands.

#### Our Products

Twin Wire Arc Spray Systems

HVAF-Arc

AC-HVAF

Supersonic Air-Fuel

Weight-loss Powder Feeders

High Pressure Powder Feeders

Complete Turnkey Systems

Customized Coating Solutions

# ArcMaster™ 300



Twin-wire arc gun designed for high reliability and trouble-free wire feeding.



- Lightweight gun (4.2 lb / 1.9 kg) made of the toughest materials for reliable operation in harsh industrial environments
- Spray head with interchangeable nozzles, supporting a wide range of atomizing air flows (including a high-velocity option) to meet the required coating structure
- Powerful Swiss made DC motor with planetary gear head enclosed in a dust proof protective housing provides smooth feeding of wire stock and ensures a stable arc
- Streamlined ergonomic design
- Hardened steel wire guides
- Wire feed rollers provide reliable wire grip for slip-free operation with both hard solid and malleable cored wires
- Maintenance free worm gearbox with life expectancy of 10,000-12,000 hours
- Tungsten-copper alloy contact tips

## Applications

- Wear resistance
- Anti-corrosion
- Repair and maintenance
- Corrosion protection of steel and naval constructions
- Corrosion protection of concrete structures
- Corrosion protection off shore

The ArcMaster™ 300 is a durable high-performance twin-wire arc spray system designed for reliable and cost effective deposition of a full range of metal coatings. The gun utilizes a highly reliable DC motor-based wire feeding mechanism, which, along with a smart spray head design, ensures a consistently high coating quality. The lightweight and robust one-piece polymer frame of the gun contains just a handful of additional metal parts, which makes it very easy to operate and service. Coatings applied with the ArcMaster™ 300 feature an uncommonly low porosity for an arc process.

ArcMaster™ can be ordered in a high feed rate (HFR) configuration that is optimized for materials with low melting points, such as zinc and aluminum.

Wire Types	
Solid Wires	
Cored Wires	

Wire Size	
1/16" (1.6 mm)	
2.0 mm	
3/32" (2.3 mm)	

Common Use	
Aluminum	
Molybdenum	
Babbitt	
Nickel	
Copper	
Bronze	
Steel	
Tin	
Cored Wires	
Zinc (HFR)	
Zinc-aluminum (HFR)	
Aluminum (HFR)	
Aluminum-magnesium (HFR)	

Max Spray Rate	
Al	7 kg/h
Steel	15 kg/h
Bronze	18 kg/h
NiCr	16 kg/h
Mo	9 kg/h
Cored Wire	12 kg/h
Zn	30 kg/h (HFR)
ZnAl15	28 kg/h (HFR)
Al	10 kg/h (HFR)
AlMg5	9.8 kg/h (HFR)

Air Consumption	
50 SCFM @ 125 PSI	

Max Current	
300 A	

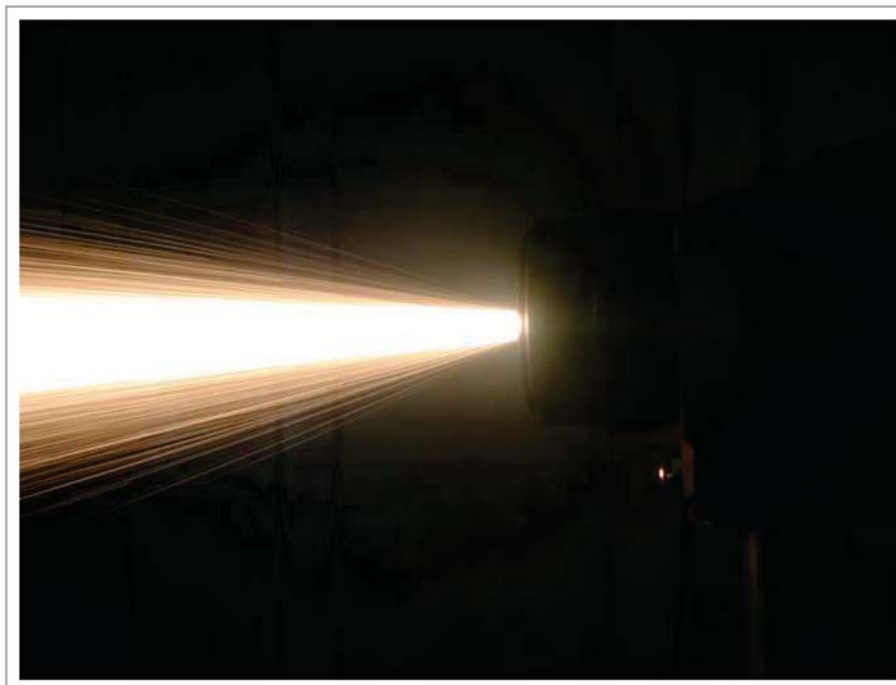


Power Supply	
Current	450 A
Voltage	18 - 38 V
Weight	174 kg

Use Options	
Robot Mounted	
Manual Spraying	

## HVAF Arc™ 300

Twin-wire arc gun with a high velocity toroidal particle accelerator for superfine metal atomization.



Wire Types	
Solid Wires	
Cored Wires	

Wire Size	
1/16" (1.6 mm)	
2.0 mm	
3/32" (2.3 mm)	

Common Use	
Aluminum	
Molybdenum	
Babbitt	
Nickel	
Copper	
Bronze	
Steel	
Tin	
Cored Wires	
Zinc (HFR)	
Zinc-aluminum (HFR)	
Aluminum (HFR)	
Aluminum-magnesium (HFR)	

- Very dense, low porosity coatings
- Superfine particle atomization
- Air-cooled toroidal combustion chamber-accelerator with jet velocity of 800 m/sec
- Made of the toughest materials for reliable operation in harshest industrial environments
- Spray head with interchangeable nozzles, supporting a wide range of atomizing air flow (including high-velocity option) to meet the required coating structure

- Powerful Swiss made DC motor with planetary gear head enclosed in a dust proof protective housing provides smooth feeding of wire stock and ensures a stable arc
- Streamlined ergonomic design
- Hardened steel wire guides
- Wire feed rollers provide reliable wire grip for slip-free operation with both hard solid and malleable cored wires
- Maintenance free worm gearbox with life expectancy of 10,000-12,000 hours
- Tungsten-copper alloy contact tips

## Applications

- Wear resistance
- Anti corrosion
- Repair and maintenance
- Corrosion protection of steel and naval constructions
- Corrosion protection of concrete structures
- Corrosion protection off shore

The HVAF Arc™ spray gun produces dense and finely structured coatings from solid and cored wire stock. The gun employs an electric arc to melt the wires and an HVAF jet to atomize and accelerate the fused particles. The spray head, which is the size of a conventional arc head, includes a toroidal combustion chamber atomizer surrounding the wire tips. A hot ceramic insert activates air-fuel combustion and makes it stable within an extremely short chamber. Exhaust gases are directed into the arc zone. The resultant high velocity jet atomizes molten material, accelerates particles, and propels them toward the substrate where they form a coating. This jet is low in oxygen content and protects the liquid metal from oxidation in the arc zone. Dense, very fine structured coatings with an even distribution of elements and phases are formed due to the atomization of spray wires to extremely fine particles, their acceleration to high velocities, and in-flight protection against oxidation. While this is beneficial to all sprayed materials, the HVAF Arc™ gun demonstrates exceptional performance while spraying cored wires. Hard-face coatings of such wires exhibit improved resistance to erosive and abrasive wear, and in many applications they can replace hard chrome plating.

HVAF Arc™ can be ordered in a high feed rate (HFR) configuration that is optimized for materials with low melting points, such as zinc and aluminum.



Max Spray Rate	
Al	7 kg/h
Steel	15 kg/h
Bronze	18 kg/h
NiCr	16 kg/h
Mo	9 kg/h
Cored Wire	12 kg/h
Zn	30 kg/h (HFR)
ZnAl15	28 kg/h (HFR)
Al	10 kg/h (HFR)
AlMg5	9.8 kg/h (HFR)

Supported Fuels
Propane
Propylene
MAPP Gas
Natural Gas

Air Consumption
50 SCFM @ 125 PSI

Fuel Gas Consumption
8.8 lb/h (4 kg/h)

Max Current
300 A

Power Supply	
Current	450 A
Voltage	18 - 38 V
Weight	174 kg

Use Options
Robot Mounted
Manual Spraying