### VRC Gen III™ Series Cold Spray System

- **Spray any cold sprayable material**
- **Smallest, most maneuverable and reconfigurable high pressure cold spray applicator on the market**
- Spray near-bulk properties without damaging your substrate
- Repair damage from 0.002 to 1 in. [0.05 mm – 20+mm]
- Extended reach with the removable heater

### Materials

Capability to deposit virtually any metal, and powders known to be cold sprayable

- Aluminum, Copper, Magnesium, and Nickel alloys
- Steels and Stainless Steels
- Titanium, Niobium, Tantalum, Zirconium

### Properties

Properties with cold spray now are approaching bulk properties for many materials

- Density over 99% is achievable
- Ductile coatings can be made (>5%) for some alloys

### Physical

- Footprint: 72 x 32 x 66 inches
- Total Weight: 1285 lbs.
- Maximum temp: 650 °C measured at the applicator
- Maximum Heater power
  - Gen III: 15 kW
  - Gen III Max: 45 kW

#### Powder Feed Rates

- Min Powder feed rate: 1.3 cm³/min
- Maximum Powder feed rate: 9.3 cm³/min
- Deposition rates from 10 - 100 g/min
- Deposition rates for optimized properties:
  - Magnesium: 10 g/min
  - Aluminum: 20 g/min
  - Titanium: 25 g/min
  - Steel: 35 g/min
  - Nickel: 40 g/min
  - Tantalum: 80 g/min

#### Electrical

- 480 VAC, 3 phase
- 90 Amps for Gen III/Gen III Max

#### Gas Supply

- (maximum input pressure: 3000 psi)
  - Air, Nitrogen, Helium
  - Maximum system pressure: 1000 psi
  - Automatic pressure control

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VRC METAL SYSTEMS

VRC COLD SPRAY EQUIPMENT

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**COLD SPRAY PROCESS / WHY VRC?**

**What is Cold Spray?**

Cold spray is also referred to as supersonic particle deposition. It is a solid-state coating process that uses heated high-pressure carrier gas such as nitrogen or helium to accelerate fine metal powders through a spray nozzle to supersonic speeds. The supersonic metal powder adheres to the target surface achieving a very strong metallurgical bond in addition to a mechanical bond. All without introducing large amounts of heat into the substrate.

**Why VRC?**

VRC manufactures the only high pressure, portable and hand sprayable cold spray system ensuring customers get the right configuration for their needs.

VRC is also a leader in cold spray applications development. Committed to provide innovative, reliable metals deposition and automation technologies and manufactured components to give our customers market leading capabilities. Whether aerospace, energy, shipping, mining, or other industrial applications, VRC has the right system for you.

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