



METAL SYSTEMS

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

Touch screen controls for process control

System ability to log parameters and operating data, and download to offline storage

10 ft stainless steel interlock hose, thermally insulated

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

COLD SPRAY PROCESS / WHY VRC?

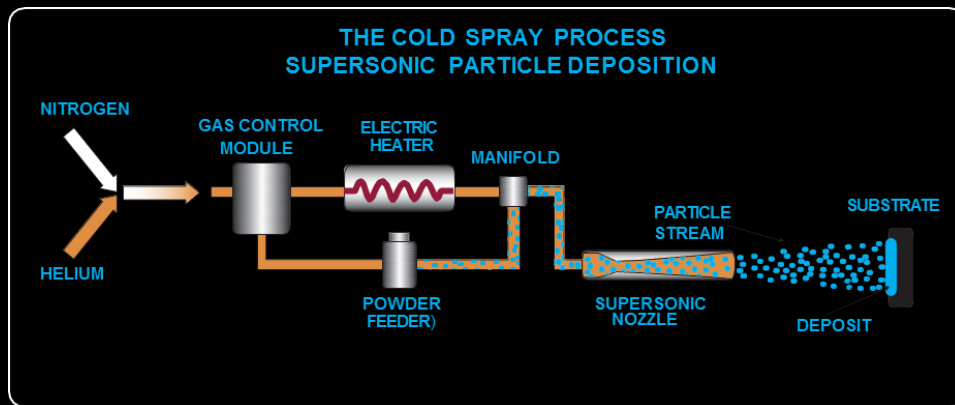


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What is Cold Spray?

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 metallur-

gical bond in addition to a mechanical bond. All without introducing large amounts of heat



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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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