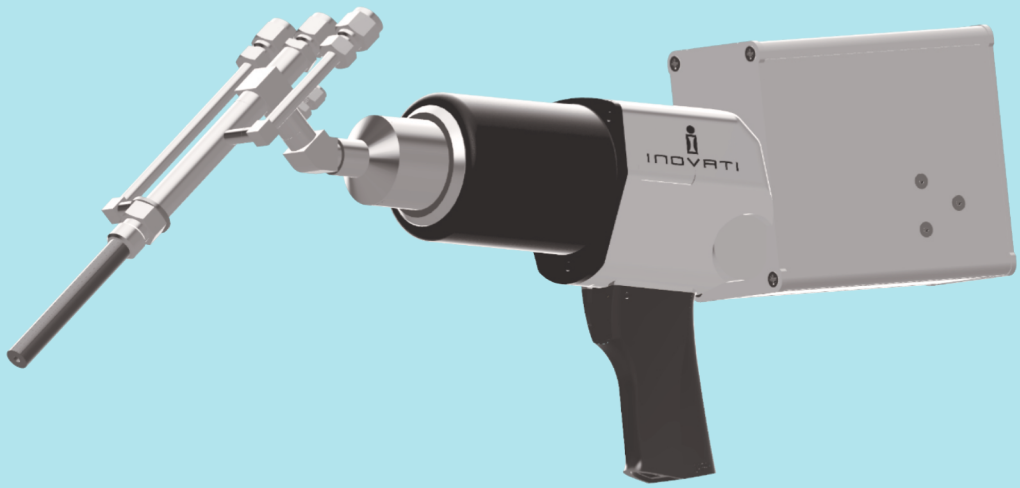
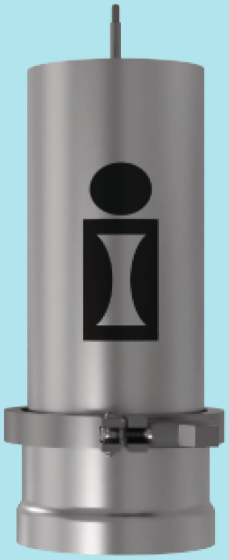
Kinetic Metallization

Portable KM-HDR 6





Engineered for the Field. Built for Performance.

Low Operating Cost | Easy to Operate | Low Inlet Pressure | Production Ready

Kinetic Metallization

Portable KM-HDR 6

Benefits

- Meets ES&H Requirements
- ISO 9001 Conformant
- EN ISO 13849-1 Conformant
- Low Operating Cost
- Low Temperature
- Low Pressure (N2, He or Mixed)
- High Particle Velocity
- Quiet Operation
- Preserves Heat Treatments

Industries Served

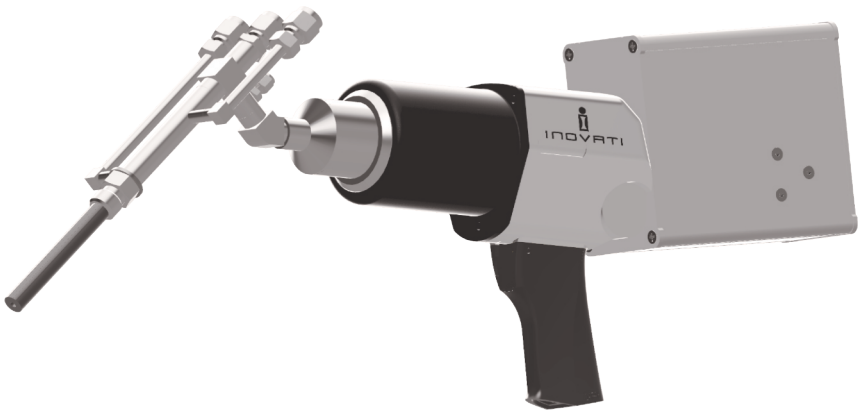
- Aerospace
- Marine
- Oil & Gas
- Electronics
- Automotive
- Energy

KM™-HDR 6

The portable KM™-High Dynamic Range 6 (HDR6) packs over 20 years of KM™ process refinement into a compact system. Its sixth-generation hardware allows dynamic adjustment of key parameters—temperature, pressure, flow, and powder feed—to suit varying operating conditions. The system features automated reporting along with an integrated database for managing powder inventory, project tracking, and coating results. The portable KM™-HDR6 delivers state-of-the-art cold spray performance in a compact, field-ready design.

KM™-HDR Portable Deposition Gun:

This lightweight spray gun features a thermally controlled mixing chamber that blends heated accelerant and carrier gases, ensuring optimal preheating of the feedstock powder before high-velocity acceleration through the nozzle. Simple, integrated motion controls allow real-time adjustment of the powder feed rate for precise application and performance.



KM Handheld Deposition Gun

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Portable KM-HDR 6

Applications

- Hard Chrome Replacement
- Wear Resistance
- Fatigue Resistance
- Dimensional Restoration
- Corrosion Protection
- Temperature Sensitive Materials
- Metal Coatings on Ceramics
- New Heavy Metal Free Wear/Corrosion Resistant Coatings
- New Heavy Metal Free Aluminum Repair Material
- Polymer Coatings
- Metallization Of Polymers

Hardware & Electronics

Control Cabinet: Contains an Electronic Control Box and a Gas Control Panel mounted in a 16x18” cube UL-508 cabinet.

Powder Feeders: Inovati’s patented brush-sieve powder feeders allow users to consistently and reliably feed powders from 1-100 microns.

Friction Compensated Nozzle: Inovati’s patented nozzle design accelerates gas to the sonic speeds, propelling powders up to 1000 m/s.

HDR6 Control Cabinet 16”x16”x18”

Powder Fluidizing Unit

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KM™-HDR Data Logging

- Automatic realtime data logging of all process parameters
  - Temperature
  - Pressure
  - Gas Flow
  - PFU RPM
- Automatically generated Objective Quality Evidence report for every run
- Complete record of all process parameters
- Automatically generated plots of time series and statistical process data for QA evaluation and documentation

Monitoring & Reporting

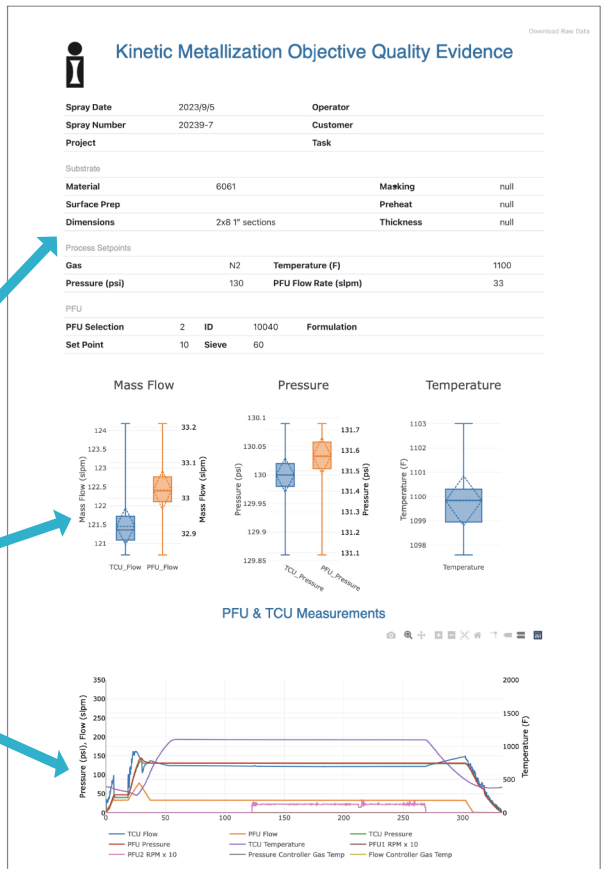
Process Monitoring: The KM™-HDR system features continuous monitoring of realtime process conditions to detect anomalous conditions such as **leaking** or **clogging**

Automatic Health Check: Automatic self check routine performed at the beginning of every run to alert operators of out of range conditions such as nozzle wear or loose gas connection

QA Reporting: Automatically generated Objective Quality Evidence report for every spray

Example Objective Quality Evidence Report

- Job details and process parameters including powder feedstock details
- Statistical representation of measured process variables
- Time series representation of process variables



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Portable KM-HDR 6

KM™-HDR Gas Options

Types:

- Helium
- Nitrogen
- Helium/Nitrogen Mixture

Sources:

- Compressed Gas Cylinders
- Liquid Nitrogen
  - •265L Dewar
  - •18 hrs Continuous Spray Time
  - •No Compressor

Accelerant Gas

The KM™-HDR6 system operates on helium, nitrogen, or an in-situ blend of both. Choose gas type and blend ratio based on application performance and economic requirements. Our patented Friction Compensated Sonic nozzle design ensures top-quality coatings while maintaining gas flow rates low enough to spray continuously on a single liquid nitrogen dewar for 18 hours.

Liquid N2 Dewar with Vaporizer