



MET-HVOF

HIGH VELOCITY

High Velocity Oxygen Fuel (HVOF) is a process to apply very dense, strongly adhered coatings. A fuel (commonly kerosene or hydrogen) is mixed with oxygen and ignited in the combustion chamber. The combustion gases are accelerated through a nozzle. Powder is introduced into the gas stream where it softens and gathers speed before coating onto the sprayed surface. These coatings are commonly used as a hard chrome replacement process and produce very dense, hard wearing coatings. Metallisation offers two variants of HVOF Pistol Control Consoles to operate either liquid fuel or gas fuel pistols.

The system uses simple control and operator interface features. It can be interfaced with liquid or gas fuelled pistols. At the front end, the operator interface utilises an intuitive Graphical User Interface (GUI), including the option to integrate video images into the display. The interface runs on a familiar touchscreen Windows PC platform with Intel Dual Atom processor which is great for usability, integration and communication.

Behind the scenes, the latest PLC runs the system with communication between devices via the reliable Ethernet protocol. The gases are mass-flow controlled for optimum repeatability of coatings. All spray parameters can have real-time trending on the system. The result is a truly unique, compact design, flexible, easy to operate HVOF system, backed up by Metallisation's 100 year+ industry experience and support.

APPLICATIONS

- Hard-chrome plate alternative
- CGL mill rolls
- Oil/Gas valves
- Paper Rolls
- Suspension Components
- Landing Gear

ADVANTAGES

- Mass Flow controlled for precision operation
- Available in either Kerosene or Hydrogen fuelled options
- Integration of 3rd party equipment (pistols & powder feeders)
- Operation that meets NADCAP approval
- Coating application to Aerospace standards

Typical Performance Figures			
Material	Reference	Throughput g/min	Deposit efficiency %
WC Co Cr (86/10/4)	99745	70	49
WC Co (83/17)	99735	70	45
WC Co (88/12)	99725	70	45
Ni Cr B Si	99325	70	48
Inconel 625	99405	70	47
Copper	99407	70	63
Chrome Carbide	99785	70	50
Stellite™6	99856	70	44

All figures are approximate and dependent on many factors including powder type, parameters and fuel grade / quality.



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FEATURES & BENEFITS

Met-Jet 4L

The ultimate solution for industrial coating applications

- ✦ Optimised, single point fuel injection system to promote a complete, clean burn within the combustion chamber
- ✦ Three nozzle lengths available, enabling a wide range of coating properties
- ✦ Very simple nozzle design reduces consumable spares costs
- ✦ Simple pistol maintenance for reduced downtime when changing consumables
- ✦ Robust chamber pressure transducer provides accurate feedback
- ✦ Robot configurations for all major manufacturers

Met-PCC(HVOF)

The latest technology to optimise functionality and reliability

- ✦ Industrial Windows based Touch Screen HMI
- ✦ Electronic Mass flow control of gases
- ✦ Siemens PLC Controller with expandable I/O and Robot interface
- ✦ Configurable Multipoint Safety Circuit with interlocks
- ✦ Optional remote connectivity and monitoring

THE EQUIPMENT

- ✦ MET-JET 4L Pistol
- ✦ Control Box
- ✦ HMI Interface
- ✦ Powder Feeder
- ✦ Alternative pistols supported



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