

SUPERCOTE HV³

HVOF Spray System

GENERAL INFORMATION

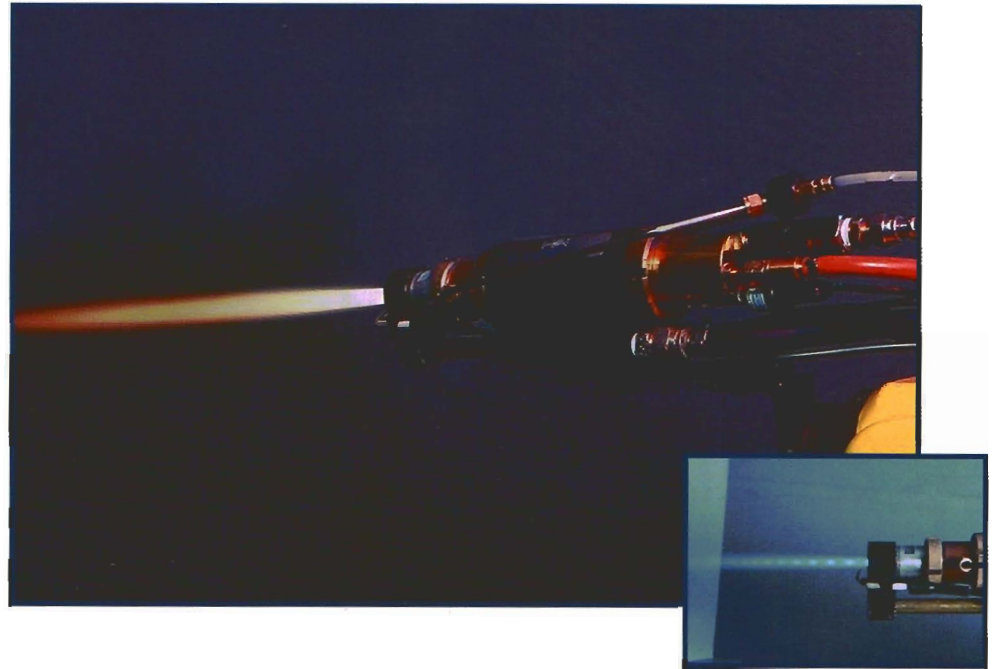
Hardface Alloys SUPERCOTE HV³ is a high-performance, cost-effective High-Velocity Oxy-Fuel Spray system designed to produce the densest carbide and metallic coatings, with high hardness and low oxide levels.

The system comes complete with the SUPERCOTE HV³ Mass-Flow Control Console, Gun, Powder Feeder and an optional Cooling System. The entire system is integrated to provide reliable and reproducible results with simple operation.

The hydrogen pilot system is sequenced to burn both before and after the main flame to ensure a clean start and stop without fear of kerosene being spayed out and a transducer is used to measure the chamber pressure to avoid inaccurate measurement.

In the SUPERCOTE HV³ process, liquid fuel and oxygen are fed via a pre-mixing system, at a high pressure, into a combustion chamber where they burn to produce a hot high pressure gas stream. The hot gas is then expanded through a laval type nozzle increasing the gas velocity and the pressure. This gas stream heats and accelerates the powder particles so they impact with tremendous energy upon the substrate surface.

The SUPERCOTE HV³ has been designed to give the most consistent and reliable spray on the market today. It is your perfect choice for all your HVOF spraying applications.



FEATURES

- Hydrogen Pilot System
- Axial Powder Feed, 2-part injection
- Low Powder Injection Pressure
- Color-Coded Controls & Hoses
- PLC Controlled Start-Up/Run Modes
- All Stainless Steel Chiller *(optional)*

BENEFITS

- Clean Start and Stop (Hydrogen Start-Up)
- Excellent Heat Transfer
- Accurate Pressure Measurement
- Precision and Reliability
- Simple To Operate & Maintain
- Low Operating Costs
- Uniform Powder Flow

APPLICATIONS

- Aerospace Components
- Anti-Corrosion
- Ball Valves
- Boiler Tubes
- Digestors
- Hard Chrome Replacement
Alternative Coating (HCAT)
- Hydroelectric Turbine Parts
- Industrial Rollers
printing
textiles
paper/pulp making
steel making
embossing
- Petrochemical
Impellers
Diffusers
Wear Rings
Piston Rods
Pump Systems

SPECIFICATIONS

Control Console:

Power Req. - 110 Vac Single Phase, 13 amps
L x W x H - 3.4' x 1.5' x 1.5'
Weight - 250 lbs.

Gun:

L x W x H - 19" x 5" x 5"
Weight - 15 lbs.

Powder Feeder:

L x W x H - 3.4' x 1.5' x 1.5'
Weight - 250 lbs.

Chiller:

Power Req. - 460 Vac 60 Hz 3 Phase
32 amps@460 Vac
Fluid Pump/GPM - 15@ 100 psi
Capacity - 25 tons
L x W x H - 92 1/4" x 38" x 75"
Weight - 3000 lbs.

COMPONENTS

Control Console: (Newest Design)

Model HV³C-MF mass-flow control console, brings together all the elements of the system including cooling water, powder, gas, oxygen, and fuel flows. Only quality components are used to ensure trouble-free operation. It provides all the necessary controls and interlocks to ensure easy, consistent, and safe operation.

Gun:

Model HV³G machine-mount gun, is a heavy duty, high performance gun for toolpost mounting in mechanized and automated spraying operations. It features an array of ports to feed the combustible mixture through giving a wider flame front and promoting complete burning within the chamber. The hydrogen pilot system is sequenced to burn both before and after the main flame to ensure a clean start and stop without fear of kerosene being sprayed out. Powder injection pressures are very low preventing burnt gases running along the powder tub. A transducer is used to measure the chamber pressure to avoid inaccurate measurement.

Powder Feeder

Model HV³P powder feeder interconnects with the control console for single-point operation. It consists of a sealed canister and a variable speed screw assembly which are mounted on a special electromagnetic vibrator. The vibrator assures uniform flow of the powder from the cannister to the screw. It uses a positive displacement feedscrew to accurately meter powder feed rate. This coupled with cyclonic gas mixture and the gun's low powder injection pressure, maximizes the consistency and precision of the spraying operation. Feed control is via an electronic control and digital display.

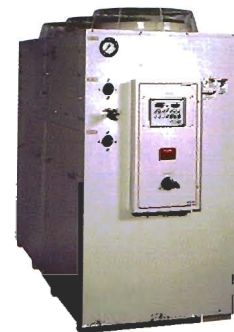
OPTIONAL ACCESSORIES

Chiller:

Model HA2500AC chiller uses a large capacity (145 gal.) water storage tank to cool the process using an all copper heat exchanger (S.S. Tank) for efficient heat transfer. Noncorrosive, contaminate-free materials are used to guarantee long service life. The gun water temperature is maintained by a PLC controlled system. Desired *to-process* water temperature is selected via electronic remote control box which feature the power on-off switches.

Travel Case:

Part 91250 is a heavy-duty, fully-cushioned portable traveling case. Designed for easy maneuverability to fit your complete SUPERCote HV³ system. Such portability makes it easy to carry out on site jobs with no loss of spray quality.



HARDFACE ALLOYS, INC.