

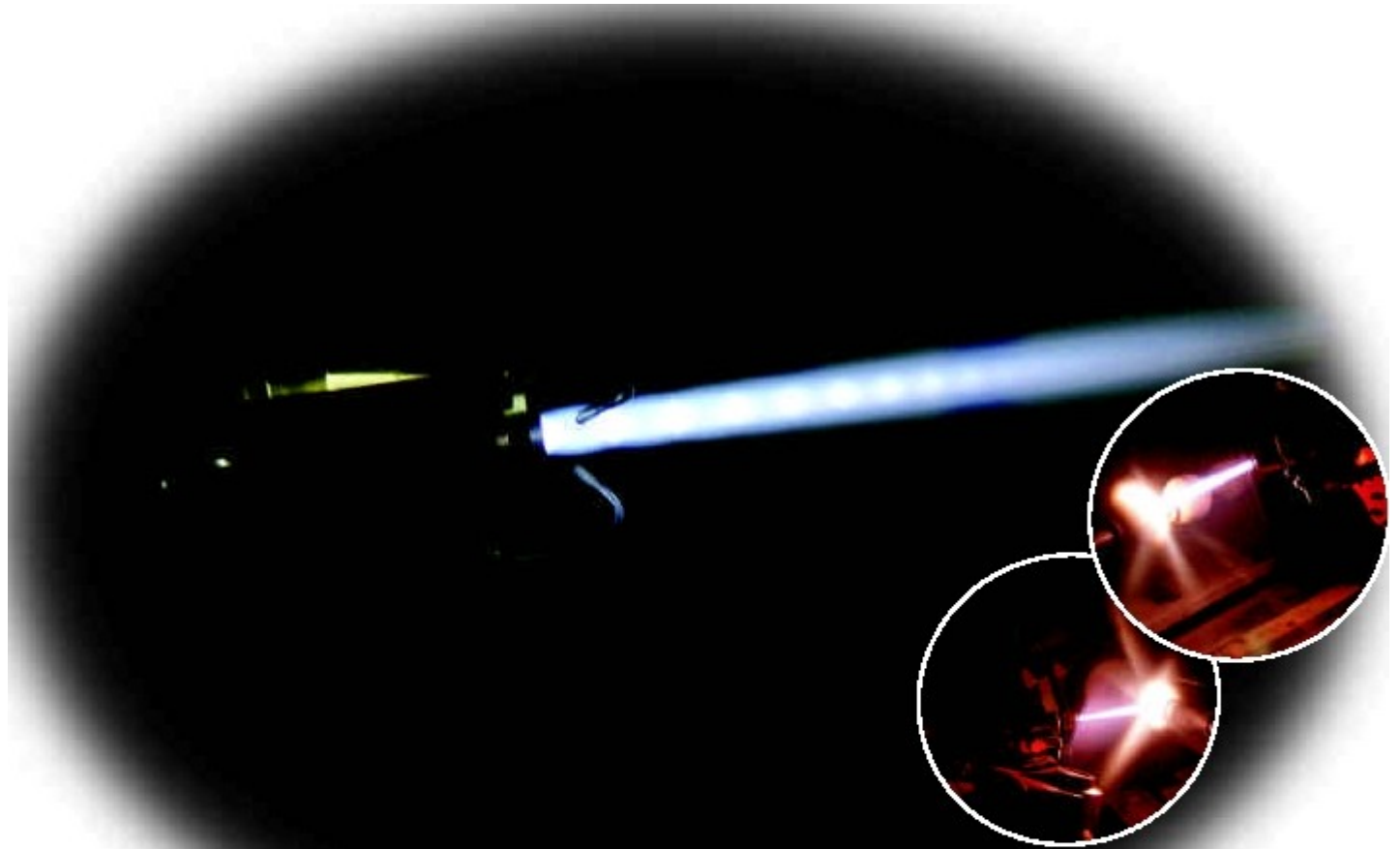
MSC



MSC Corp.

THERMAL SPRAY FACILITIES

COATING SYSTEMS FOR HVOF, PLASMA, FLAME SPRAY, ARC SPRAY & ROD SPRAY



AIR COOLED
HIPOJET-2700 GUN



WATER COOLED
HIPOJET-2700 GUN

HIPOJET-2700

HIGH VELOCITY OXY-FUEL SPRAY SYSTEM

HIPOJET-2700 SYSTEMS

SYSTEM FEATURES

AUTOMATIC

Ideal for medium to large shops with high-volume surfacing needs and increased quality control requirement.

Fully-automatic operation for highly accurate and repeatable HVOF coatings.

PLC based controller with Rotameter

Compatible with both Air Cooled Hipojet-2700 Gun and a high performance Water Cooled (Hybrid) Hipojet-2700 Gun.

Built-in monitoring and alarm system with automatic shutdown for safe operation.

Interfaces with workpiece handling equipment, gun manipulators, exhaust system and accessories.

MANUAL

Ideal for small & medium shops with occasional surfacing needs.

Precision components designed for reliable & repeatable coatings incorporating high safety standards.

Rotameter gas metering system.

Compatible with both Air Cooled Hipojet-2700 Gun and a high performance Water Cooled (Hybrid) Hipojet-2700 Gun.

Customize your system with gun and part manipulation equipment ideal for your spray applications.

User friendly mobile Unit.

Convertible to DJ-2700 as well as 6P-II. **

**DJ-2700 & 6P-II are registered Trade Marks of Sulzer Metco.



HIPOJET-2700 AUTOMATIC HVOF SPRAY SYSTEM



HIPOJET-2700 MANUAL HVOF SPRAY SYSTEM

SPECIFICATIONS

	AUTOMATIC	MANUAL
GUN	HIPOJET-2700-A	HIPOJET-2700-M
Weight	1.7 Kg. (3.74 lb)	1.85 Kg. (4.07 lb)
Gases	Oxygen, LPG/Propane/ Natural Gas, Air	Oxygen, LPG/Propane/ Natural Gas, Air
CONTROL PANEL	AP-2100	MP-2100
Dimensions	970 x 600 x 260 mm	870 x 500 x 140 mm
Weight	45 Kg (99.2 lb)	39 Kg (85.9 lb)
Electricity	220 V / 1 P / 50/60 Hz <i>110 V / 1 P / 60 Hz (Optional)</i>	220 V / 1 P / 50/60 Hz <i>110 V / 1 P / 60 Hz (Optional)</i>
POWDER FEEDER	PF-3350-HP	PF-700
Capacity	3350 CC	700 CC <i>(3350 CC Optional)</i>
Weight	40 Kg (88 lb)	32 Kg (70.4 lb)
Electricity	<i>110 V / 1 P / 60 Hz (Optional)</i>	<i>110 V / 1 P / 60 Hz (Optional)</i>

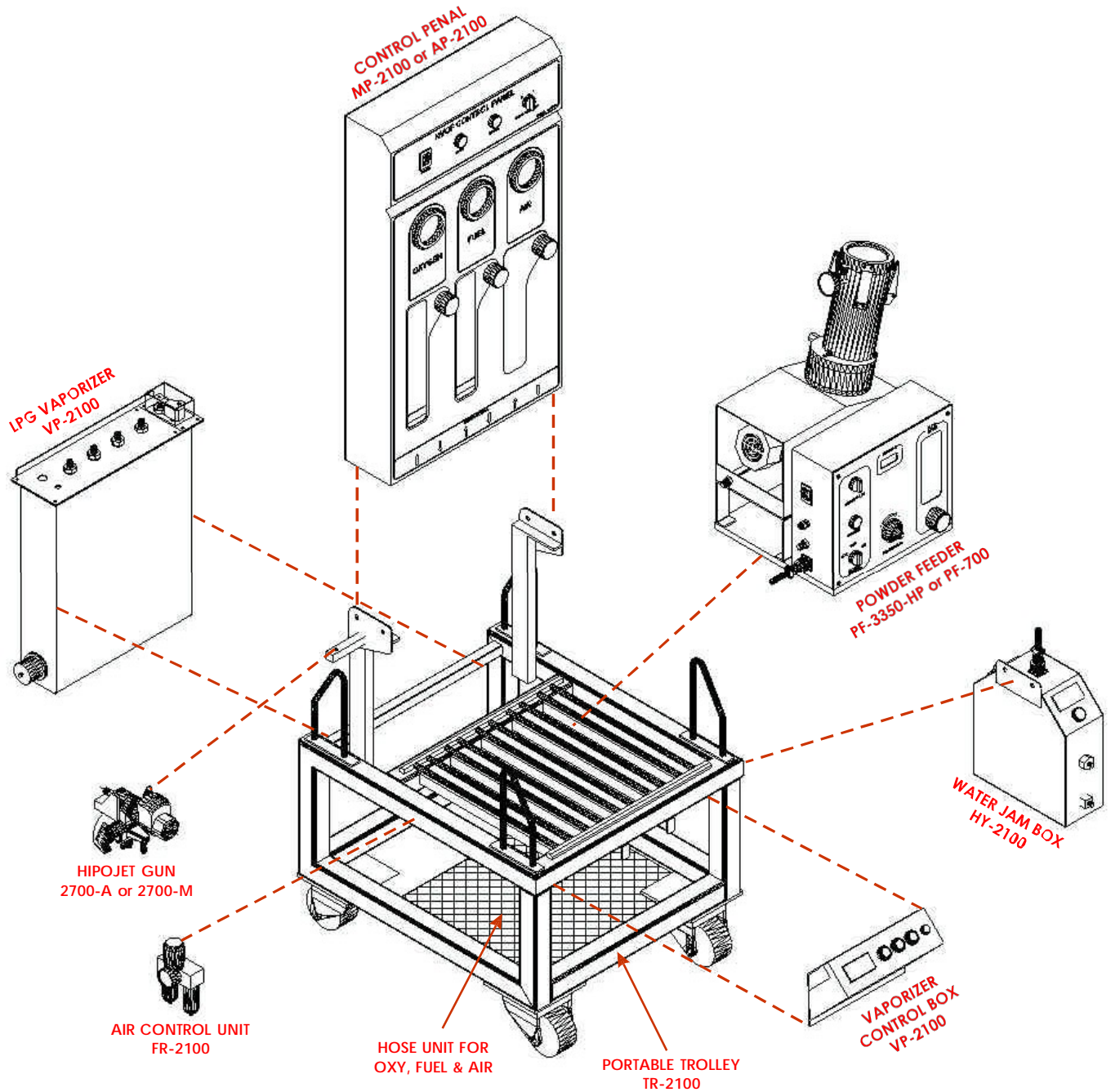
REFERENCE PARAMETERS

Gas	Flow (LPM)	Operating Pressure	Powder	Spray Rate	Deposit Efficiency
Oxygen	250 - 350	10.0 Kg/Cm ²	WC-12Co	38 gm/min (5.01 lb/hour)	70%
LPG/Propane	60 - 80	07.0 Kg/Cm ²	WC-17Co	38 gm/min (5.01 lb/hour)	60%
Air	600 - 700	07.0 Kg/Cm ²	WC-10Co-4Cr	38 gm/min (5.01 lb/hour)	70%
			Cr ₃ C ₂ -NiCr	25 gm/min (3.30 lb/hour)	58%

These parameters are only for reference. Actual parameters depend upon the local conditions, geometry, type of powder & size of the job.



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STANDARD SYSTEM

- ★ Hipojet-2700-A OR Hipojet-2700-M HVOF Gun
- ★ Control Panel; AP-2100 OR MP-2100
- ★ Powder Feeder; PF-3350-HP OR PF-700
- ★ Gas Regulator for Oxygen & LPG; GR-2100
- ★ Air Control Unit; FR-2100
- ★ Hose Unit for Oxy, Fuel & Air (7.5 mtr length)
- ★ Portable Trolley; TR-2100
- ★ Set of Recommended Spares for Hipojet-2700 Gun

OPTIONAL ACCESSORIES

- ★ LPG Vaporizer; VP-2100
- ★ Water Jam Box; HY-2100
- ★ Extension Kit for internal spray (length 1', 2', 3')
- ★ Water Cooled Jacket (Hybrid); HY-2100
- ★ Gas Manifold for Oxygen cylinders (6, 10 or 20#)
- ★ Air Blast Unit (for cooling substrate); AJ-2100
- ★ Extra length of Hose (upto 30 mtr)
- ★ Extra length of Powder Feed Tube (upto 30 mtr)

APPLICATIONS

With MEC's HVOF solutions, increased performance and improved economics do not remain mutually exclusive concepts. Our surface engineering experts can help you to :

- ✘ Manufacture components with a more economical substrate material, while maintaining specific surface properties by coating suitable material.
- ✘ Improve the service life of an existing component.
- ✘ Repair existing parts to like-new condition.
- ✘ Hard Chrome replacement.



Aerospace : Hard Surfacing; Hard Chrome replacement etc.

Turbine engine fan blade, compressor blades, bearing journals, stator, rotor disk snap diameters, landing gears, actuators, flap tracks, helicopter rotor, rotor joints & sleeves.



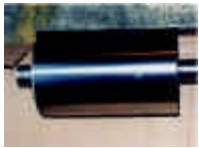
Power Generation : Hard Surfacing, Anti Corrosion

Industrial gas turbines, hydroelectric pelton buckets, nozzles and blades, exhaust fans



Automotive : Self Lubricating, Hard Chrome replacement etc.

Transmission shifter forks, hydraulic rods, pistons, piston rings, ship steering rams



Printing & Paper : Rebuilding, Hard Surfacing etc.

Print roll covers, inking rolls, calendar & press roll covers



Petrochemical : Hard Surfacing, Anti Corrosion etc.

Pump components, gate valves, ball valves, valve seats, exhaust stacks, sucker rods, hydraulic rods, conveyor screws



Textile Machinery : Rebuilding, Hard Surfacing etc.

Thread guides, crimping rolls, draw roll



Metal Processing : Rebuilding, Hard Surfacing etc.

Steel mill guides and rolls, wire-drawing capstans, forming dies, sheet metal cutters

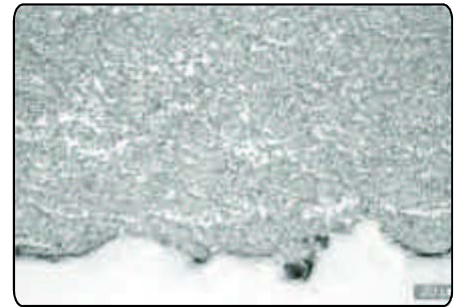


General Industry : Rebuilding, Wear Resistance etc.

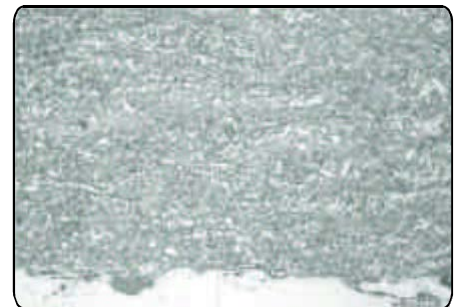
Pump housings, impellers and shafts, plastic extruders, cam followers, wear rings, machine bedways, press fits, restoration of machinery components.

TYPICAL COATINGS

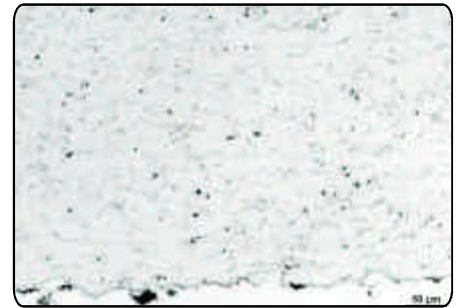
WC-12%Co



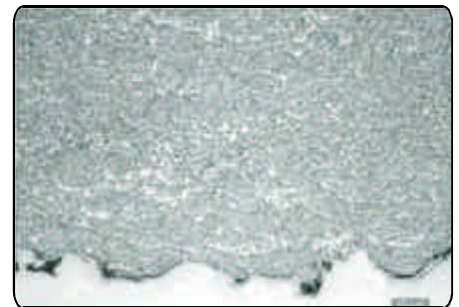
WC-10%Co-4%Cr



Cr₃C₂-25%NiCr



WC-17%Co








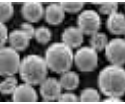




COATING FEATURES#

- ✘ High Density (Low Porosity <1%)
- ✘ Optimum Hardness (1250 VHN_{0.3})
- ✘ Smooth (as-sprayed) Surface (3-5µmRa)
- ✘ High Bond Strengths (above 10000 psi)
- ✘ Excellent Wear Resistance
- ✘ Reduced Oxide Content than Plasma Coating

Depends on type of powder & parameters

HVOF POWDERS

Most commonly used HVOF coating powders are as under :

Morphology	Composition	Description	Size
	WC - 12% Co	Agglomerated Sintered	-45+15 μ m or as specified
	WC - 17% Co	Agglomerated Sintered	-45+15 μ m or as specified
	WC - 10% Co - 4% Cr	Agglomerated Sintered	-45+15 μ m or as specified
	Cr ₃ C ₂ - 25%NiCr	Agglomerated Sintered	-45+15 μ m or as specified
	Cr ₃ C ₂ -20%NiCr	Agglomerated Sintered	-45+15 μ m or as specified
	WC-20%CrC- 7%Ni	Agglomerated Sintered	-45+15 μ m or as specified
	NiCrBSi	Gas Atomised	-45+15 μ m or as specified
	Inconel-718 *	Gas Atomised	-45+15 μ m or as specified
	Stellite - 6 #	Gas Atomized	-45+15 μ m or as specified
	Ni-20%Cr	Gas Atomized	-45+15 μ m or as specified

* Inconel is a registered trademark of International Nickel.

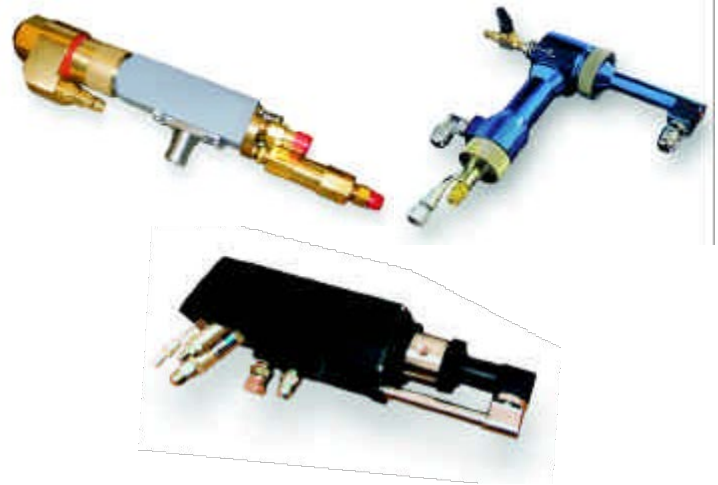
Stellite & Jetkote are registered trademark of DeloroStellite, Inc.

+ DJ, 11E, 12E, 14E, 5K, 5P, 6P are registered trademark of Sulzer Metco

HVOF WIRE SPRAY GUN



SPARE PARTS & COMPONENTS



MEC manufactures using state of art manufacturing facility, a wide range of parts for thermal spray equipment. Every part is manufactured with great precision, and tested in stringent conditions, before being offered to the market. Our Spare Parts and Components product range is exhaustive for most commercially available thermal spray guns, including:



SG-100

JP-5000

DJ+

JetKote#

5P-II / 6P-II+

12E / 11E / 14E / 5K+

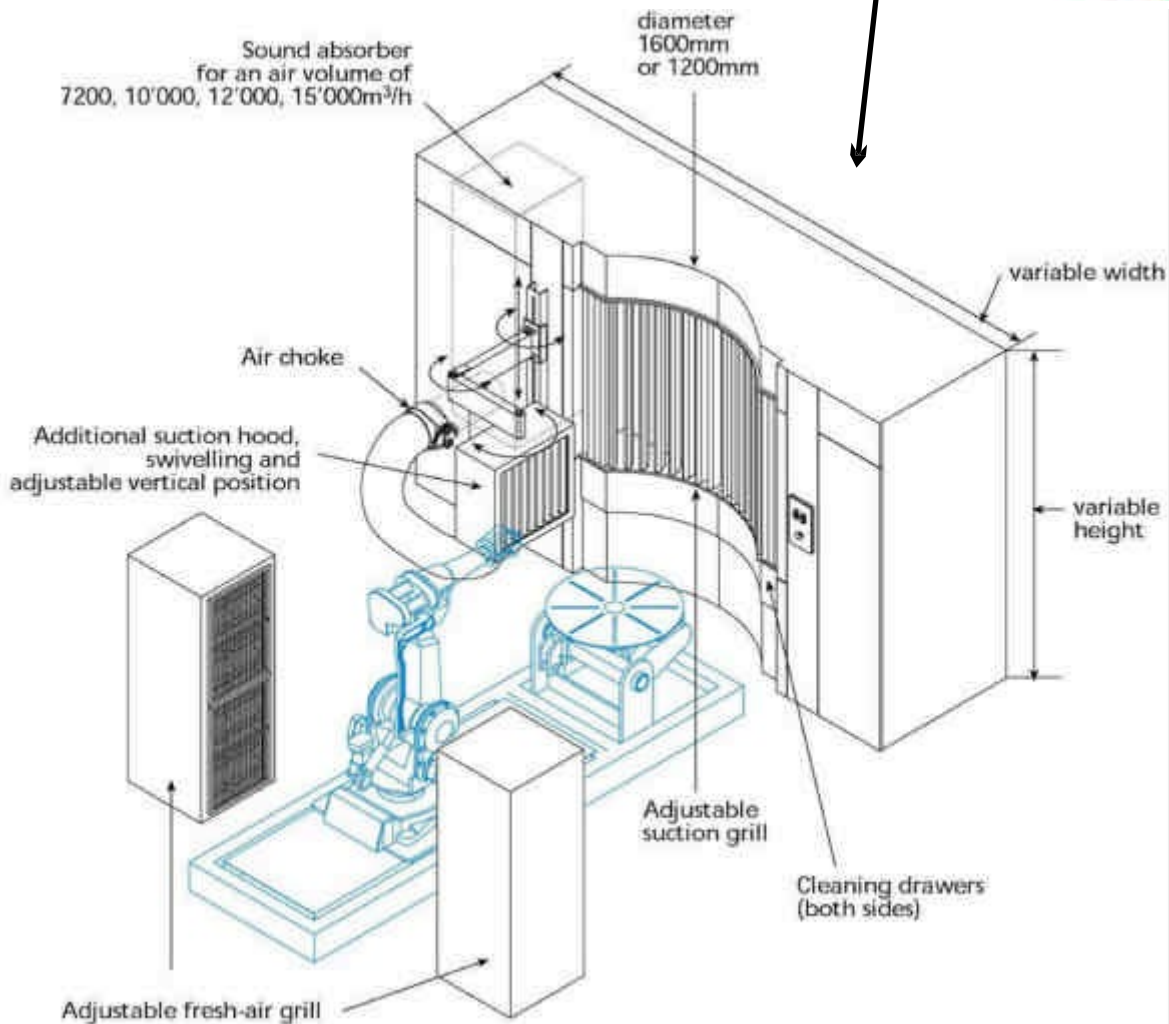
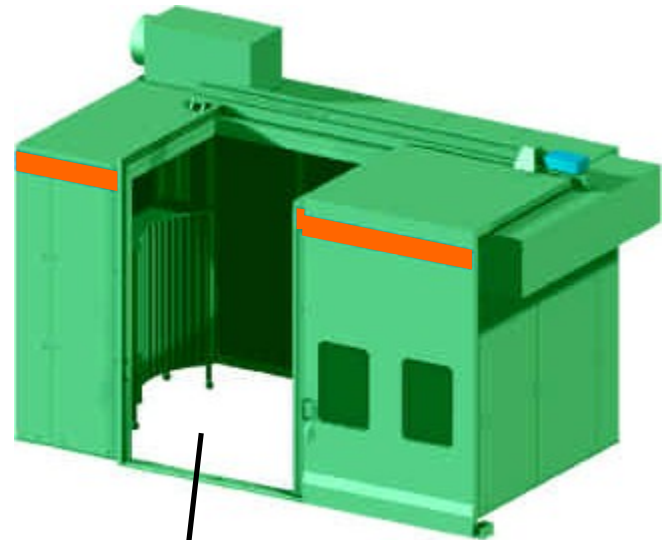
Arc Spray

ROBOTIC THERMAL SPRAY CELL

During HVOF process, high noise level(>130 dBA) is generated. It is advisable to operate the system in sound proof booth (Acoustic Room) which protects both personnel and the environment. Shown below is a modern Thermal Spray Cell complete with Robot & Turn Table. The sound level is reduced by 40 to 50 dBA.

Customize your spray system with gun and part manipulation equipment from MEC that includes robotic manipulators, turntables, vertical and horizontal traverses and more.

Specialized handling requirements ? No problem! We can custom design, fabricate and install exactly what you need.



Metal Spray Coating Corp.

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