MEC

ISO-9001 :2008

THERMAL SPRAY FACILITIES

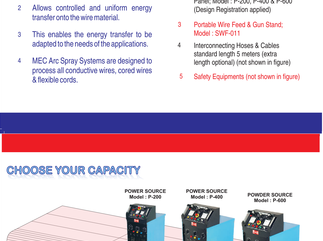
AUTOMATIC SYSTEMS for HVOF, PLASMA, FLAME SPRAY, ARC SPRAY & ROD SPRAY

A statue made of clay is getting "COOL" spray of bronze metal by ARCJET®-99/400

TWIN WIRE ARC SPRAY SYSTEMS

MODEL : ARCJET®-99/200 - ARCJET®-99/400 - ARCJET®-99/600

CE Approved



FEATURES :

1. New technology for the power supply in combination with the highly accurate wire feed and the modified air cap geometry
2. Allows controlled and uniform energy transfer onto the wire material.
3. This enables the energy transfer to be adapted to the needs of the applications.
4. MEC Arc Spray Systems are designed to process all conductive wires, cored wires & flexible cords.

MEC ARC SPRAY SYSTEM

consists of following basic assemblies :

1. ARCJET-99 Gun with Air-Cooled Arc Head (Patent pending)
2. Power Source with in-built Control Panel: Model : P-200, P-400 & P-600 (Design Registration applied)
3. Portable Wire Feed & Gun Stand; Model : SWF-011
4. Interconnecting Hoses & Cables standard length 5 meters (extra length optional) (not shown in figure)
5. Safety Equipments (not shown in figure)

CHOOSE YOUR CAPACITY

ARC SPRAY SYSTEM		POWER SOURCE Model : P-200	POWER SOURCE Model : P-400	POWER SOURCE Model : P-600
Max. Melting Output (Kg/hr.)		MODEL : 99/200	MODEL : 99/400	MODEL : 99/600
Max. Coverage (in mm per minute)	Zinc	15.00	30.00	45.00
	Aluminium	4.30	8.60	12.90
	Cr-Ni-Steel	6.60 - 7.15	13.20 - 14.30	19.80 - 21.45
	Al-Bronze	7.00 - 7.60	14.00 - 15.20	22.50 - 23.85
	Zinc	13.63	26.15	39.15
	Aluminium	7.29	26.86	39.10
	Cr-Ni-Steel	16.00	14.58	21.87
	Al-Bronze	275 lbs (125 Kg.)	21.78	32.67
WEIGHT		7 KW	440 lbs (200 Kg.)	495 lbs (225 Kg.)
POWER REQUIREMENT		415 V / 3 P / 50-60 Hz	15 KW	23 KW
INPUT SUPPLY		NO	415 V / 3 P / 50-60 Hz	415 V / 3 P / 50-60 Hz
HIGH VELOCITY OPTION INSTALLED		1.6 mm	YES	YES
WIRE SIZE (DIA)			1.6 mm to 3.17 mm	2 mm to 3.17 mm

Note : The Actual output values may vary upon the wire size, coating thickness, geometry of the job.

ARCJET-99 GUN

- The ARCJET-99 Gun is light and easy to use. It has simple adjustments and requires minimal maintenance.
- Closed Nozzle System to ensure high bond and fine spray.
- Pull Wire Feed System by Air Motor (1000 RPM for high melting wires and 2500 RPM for low melting wires)
- Forced-air cooled arc head (patent applied) to keep air cap, nozzle positioner, and spray head cool, thus preventing overheating at high amperes.
- The defined particle size and small spray diameter increase both the quality and efficiency of the metal deposition.
- Weighing only 3.5 Kg. Gun can be hand-held or installed in a wide variety of automated equipment.
- Compressed air requirement: 35 CFM FAD at 60-80 psig (5 bar).

ARCJET-99-ED GUN

- Wire pulling system by AC Motor, fitted in the gun. This ensures precision wire feed speed.
- Capable to spray all wires.
- Weight : 5 Kg. (without hoses & Cables).
- Compressed air requirement : 35 CFM FAD at 60-80 psig (5 bar).
- ED Power Source is required.

PORTABLE WIRE FEED & GUN STAND

- Portable & Two- in -one (holding spools as well as gun).
- Can be moved near to job, away from power source.
- Swivel type stand takes the direction of wire feed towards operator's side.
- Alternative or additional wire dispensing system for 125 Kg. / 250 Kg wire drums are available.

HOSES & CABLES

- The hose package consists of two current cables and an air hose & two insulated wire guide tubes.
- Cable & hose set has a standard length of 5 mtrs. (other lengths as optional)
- The insulated wire guide tubes have a standard length of 2.5 meters and are made from a special low resistance material.

WHAT IS HIGH VELOCITY SYSTEM & WHY ?

The High Velocity option is a revolutionary technology that has allowed the arc spray process to rival the coating quality of higher-end processes like plasma spray. The High Velocity attachment increases particle velocities and concentrates the spray pattern to produce dramatically improved coating quality. Coatings are similar to plasma-sprayed coatings; however, with the High-Velocity Option, these plasma-like coatings can be produced in much less time and at a fraction of the cost. Other advantages that the High Velocity attachment has over conventional arc spray are:

- Higher particle velocities & deposition efficiency
- Denser coating & superior bond strength.
- Focused, narrow spray pattern
- Smoother as sprayed coating
- High Velocity option is installed in Model : P-400 & P-600

EXTENSIONS FOR INTERNAL COATINGS

For years, the arc spray process has been limited in its ability to reach internal diameters. The development of ID arc spray extension has been a major leap in improving process technology.

- Enables spraying in bore or difficult-to-reach-at place. Deflector Nozzle : 90 deg. Straight Nozzle : 0 deg.
- Available in length of : 315 mm (1 ft.) 630 mm (2 ft.) / 945 mm (3 ft)
- Allows coating in internal diameter of 70 mm & above.
- Highly engineered nozzles, tips and positioners have been designed for applications that demand maximum durability.

ABRASIVE BLASTING MACHINES

Due to the nature of the metal spraying process, it is necessary to prepare the job surface by Abrasive Blasting Machines. MEC provide complete range of Abrasive Blasting Machines / Blast Rooms for surface preparation required prior to metal spraying.

SOLID & CORED ARC SPRAY WIRES

We recognize that high quality spray equipment without compatible, first-rate coating material can lead to less than desirable coatings. For arc spray, only wires designed and produced for thermal spraying ensure trouble free application and superior, consistent coatings.

With over 100 standard materials include Aluminium, Aluminium Alloy, Tin, Tin Alloy, Nickel, Nickel Alloy, Zinc, Stainless Steel, Brass, Monel, Copper & many more wires are available. MEC also able to fulfill the requirement of Cored Wires, the latest development in coating consumables.

MEC can assist in the selection of the correct material for all applications and can supply to suit all thermal spraying needs.

Coating Consistency

MEC has worked closely with industries to develop arc spray solutions for some of the most demanding coating applications. While most arc spray coatings still utilize metallic alloy composition, the advent and growth of engineered composite cored wires broadens the use of arc spray technology. For coatings ranging from simple dimensional restoration to complex surface treatment requirements, arc spray provides competitive high quality solutions.

Corrosion Protection

Arc sprayed coatings are used widely to fight both high and low temperature corrosion. these coatings have proven their excellence in challenging environments such as boilers, by providing oxidation and heat resistance. Arc sprayed coatings also provide excellent resistance to atmospheric corrosion and are used on bridges and other infrastructural components.

Electrical Conductivity and resistivity

Arc sprayed aluminium, tin, zinc and other metals are used in applications requiring good electrical conductivity. For example, Aluminium coating on metal oxide varistors & zinc on capacitors.

Arc sprayed coatings are used for both electrical conductivity and resistivity. In the electronics industry, coatings such as In-are often used on nonmetallic parts because of their ability to accept solders.

Part Restoration

The nature & flexibility of the arc spray process enables economical application of thick coatings without significant loss of bond strength. For this reason, arc spray has become the process of choice for part restoration in applications where the replacement costs are high or the part has to be refurbished on-site. Examples are : crankshaft, rolls of paper mill & steel industry.

Wear Resistance

Cored wire technology has broadened the spectrum of arc spray applications. With a tailored chemistry of materials, including carbide-bearing compositions. It is possible to produce coatings with excellent sliding wear resistance as well as abrasion resistance at a lower cost than Plasma & HVOF.

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