

METAL COAT

ARC SPRAY SYSTEM



ARC SPRAY GUN (DC DRIVE)



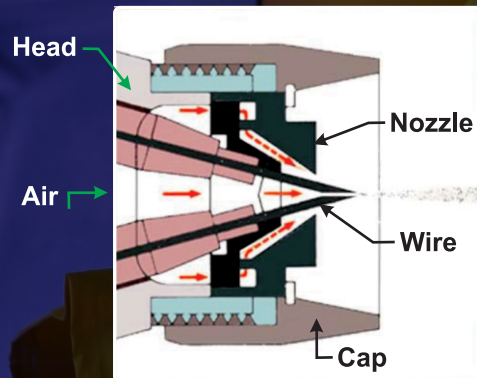
**POWER SOURCE
WITH CONTROL CONSOLE**

ARC SPRAY PROCESS

The arc spraying process involves melting of two like or unlike wires (the coating material) in an arc and accelerating them towards the prepared work surface by means of an atomising gas such as compressed air. Arc spraying is a high-performance wire spraying process, but the coating material must be electrically conductive. Twin wires are fed via electric driven motor or air motor.

Electric arc spray coatings are normally denser and stronger than their equivalent combustion spray coatings. Low running costs, high spray rates and efficiency make it a good tool for spraying large areas and high production rates.

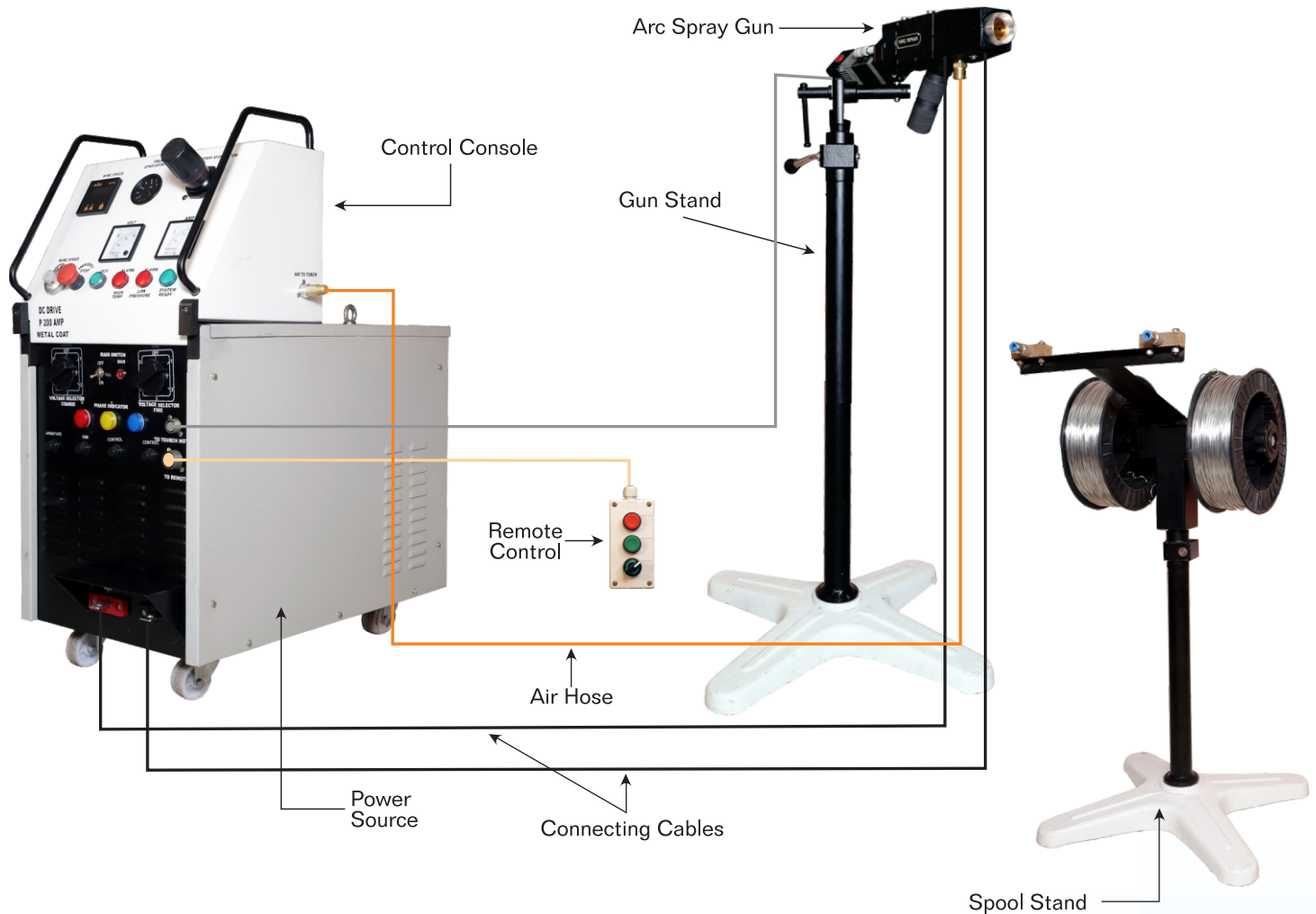
Electric arc spraying has the advantage of not requiring the use of oxygen and/or a combustible gas. In this process only electrically, conductive wires can be sprayed. The main applications of the arc spray process are anti-corrosion coatings of zinc, aluminium and machine element work on large components.



Features:

- Our advanced technology for the power supply in combination with the highly accurate wire feed which results in unbeatable coatings.
- Allows controlled and uniform energy transfer onto the wire material
- This enables the energy transfer to be adapted to the needs of the needs of the applications.
- Our Arc Spray Systems are designed to process all conductive wires, cored wires and flexible cords.
- Our Control Consul suitable for both Air and Electric Drive Gun

ARC SPRAY SYSTEM (LAYOUT)



- Arc Spray Gun with Air-Cooled Arc Head provide great quality coatings.
- Power Source: It is a DC current rectifier working on a 3-Phase, 380/415/440V, 50/60Hz power supply providing a voltage between 18 to 50 Volts
- Control Console: Mounted above the power source, carries the regulators and pressure gauges for the air supply to the gun. One remote control with the help of cable is attached with the control unit which helps the operator turn the unit ON/OFF as required.
- Twin Wire Spool Stand: The two wires for the two electrodes for the arc are supplied from two insulated wire spools mounted on the stud.
- Gun Stand: It is for mounting and positioning of gun in the required direction.
- Spool Stand: It is for mounting of Spool.
- Interconnecting Hoses and Cables: Standard length of 5 meters (extra length optional)

ARC SPRAY SYSTEM



ARC SPRAY GUN (DC DRIVE)

Model: 102DC/8835

- “Pull” wire design
- Electric motor driven
- 1.6 mm to 3.17mm wire feed capability
- PLC Controlled
- Built in E Stop interface
- Designed for automated operations and hand held .operation.
- Light weight therefore easy to hand operate.
- The Gun operates with a 24V DC semi servo motor to ensure safe working.
- The encoder feedback received from the semi servo motor displays precise wire feed speed.

Specification:

Size	: 440mm (L) 80mm (W) 185mm (H)
Drive	: 24V DC Semi Servo Motor
Net Weight	: 4.5 Kg.



ARC SPRAY SYSTEM

POWER SOURCE WITH CONTROL CONSOLE

Brief

The control console works for two operating modes called as Pneumatic and electric driven for supplying metallizing wire to the spray nozzle. In the first mode the spray gun is hand held and pulls the wire into the nozzle to get atomized. Where as in second mode the Arc Spray Gun (DC Drive) is attached to an electric driven motor to pull the wire into the spray system.

When there is a need to operate the spray gun in Lathe Tool post or robot Arc Spray Gun (Air Drive) is recommended for manual operation as it is light in weight.

The system is completely mobile and is mounted with trolley wheels for the ease of movement according to the need of operation, A high velocity air facility is inbuilt in the control panel to increase the velocity of the particle for enhanced deposition efficiency, bond strength and fine spray.

Features

- The system can switch over between electric driven and pneumatic motor driven spray gun (just by a selector switch).
- The control panel inbuilt with power source is tilt-able, thus causing easy repairing and maintenance when needed.
- The system is a diode based with no complex electronic circuit involved. Rugged design perfectly suits for continuous production work.
- In 600Amp. the Control Console is detachable and movable from Power Source.
- The system is available in 250, 400 , 600 Amp. Capacities.
- Fitted with moisture separator for dry and clean air.



ARC SPRAY SYSTEM

POWER SOURCE WITH CONTROL CONSOLE

	POWER SOURCE WITH CONTROL CONSOLE		
Arc Spray System	Model: 250 AMP	Model: 400 AMP	Model: 600 AMP
Max. Melting Output (Kg./hr)			
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	7.50 - 7.95	15.00 - 15.90	22.50 - 23.85
Maximum Coverage (m ³ /100m/hr)			
Zinc	13.05	26.10	39.15
Aluminium	13.03	26.06	39.10
Cr-Ni-Steel	7.29	14.58	21.87
Al-Bronze	10.90	21.78	32.67
High Velocity option installed	Yes	Yes	Yes
Wire Size (Diameter)	1.6mm to 2mm	1.6mm to 3.17mm	2mm to 3.17mm
Wire Feed	Both Pneumatic & Electric Drive	Both Pneumatic & Electric Drive	Both Pneumatic & Electric Drive
Power Source with Control Console Weight	117 Kgs. (approx.)	156 Kgs. (approx.)	333 Kgs. (approx.)
Dimension	37" x 18" x 39"	40" x 22" x 43"	36" x 26.5" x 45"
Power Requirement	7KW / 9.5 HP	15KW / 20 HP	25KW / 33.5 HP
Power Source INPUT			
Voltage (V)	415V \pm 10%	415V \pm 10%	415V \pm 10%
Phase (Nos)	3	3	3
Frequency (Hz)	50	50	50
Rating @60% Duty Cycle	14 (KVA)	22.5 (KVA)	39 (KVA)
@100% Duty Cycle	10 (KVA)	18 (KVA)	31 (KVA)
Power Source OUTPUT			
Static Characteristics	Constant Potential	Constant Potential	Constant Potential
Open Circuit Voltage Range	18-40	18-54	65
Max. Output Current			
@ 60% Duty Cycle	250 (Amp.)	400 (Amp.)	600 (Amp.)
@ 100% Duty Cycle	190 (Amp.)	310 (Amp.)	465 (Amp.)

ARC SPRAY SYSTEM

Portable Wire Feed & Gun Stand

- Portable Gun Stand for mounting of gun.
- Portable Spool Stand for mounting of wire spool.
- Can be moved near to job, away from power source.
- Swivel type stand takes the direction of wire feed towards operator's side.



Hoses & Cables



- The hose package consists of two current cables and an air hose & two insulated wire guide tube and one hose for motor lubrication.
- 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.

Gun Extension

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



Gun Extension



Gun Extension
fitted with Arc Spray Gun

ARC SPRAY PROCESS

HIGH VELOCITY SYSTEM

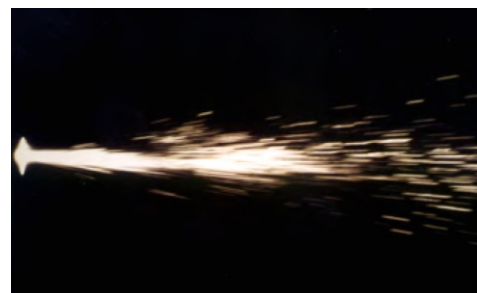
What is High Velocity System

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

Standard Pattern



Arc Spray Pattern



Solid and 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. Standard materials include Aluminium, Aluminium Alloy, Tin, Tin Alloy, Nickel, Nickel Alloy, Zinc, Stainless

Steel, Brass, Monel, Copper & many more wires are available. We also able to fulfil the requirement of Cored Wires, the latest development in coating consumables. Metal Coat can assist in the selection of the correct material for all applications and can supply to suit all thermal spraying needs.



ARC SPRAY PROCESS APPLICATION

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.



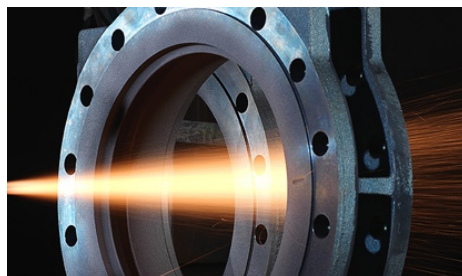
Corrosion Protection

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.



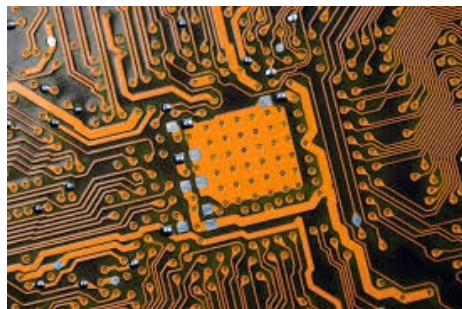
Part Restoration

The forgiving nature and flexibility of the arc spray process enables economical application of thick coatings without significant loss to bond strengths. 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.



Electrical Conductivity and resistivity

Arc sprayed aluminium, tin, zinc and other metals are used in applications requiring good electrical conductivity. Arc sprayed coatings are used for both electrical conductivity and resistivity. In the electronics industry, coatings such as tin are often used on non metallic parts because of their ability to accept solders.



Aircraft Component Repair

Most major aircraft engine manufacturers specify the use of the arc spray process for repairs of many aircraft engine components. Coatings are applied to various components for dimensional restoration, high temperature erosion resistance, and as bond coats.



Heavy Equipment

The heavy duty equipment industry uses arc spray to restore worn components as well as new components surface defects.



SAFETY WEARS

Metallizing Helmet

Light weight & comfortable with excellent vision. Supplied from a separate air supply which should be filtered by Helmet Air Conditioner.

**Air Breather**

This is installed in between compressed air line originating from fitting to the operators helmets. Activated charcoal is contained in the breather unit which separates the oil traces from the compressed air and clean compressed air is fed to the operator's helmet.

**Helmet Air Conditioner**

Air from the air breather is fed to the helmet air conditioner and air is conditioned before it is fed to the helmet for breathing. It has also a regulator knob so that the operator can regulate the temperature of air fed to the helmet. It is self driven and doesn't need external power.

**Ear Muff**

Light weight & comfortable. Operator & other personnel close to the spray operation must wear. Protect the operator from noise originating during thermal spray.

**Protective Glass**

Light weight & comfortable with excellent vision. Operator & other personnel close to the spray operation must wear.

**Operator Safety Mask**

Ensure clean breathing air at all times. Conforms to current legislation on breathing air quality.

**Hand Gloves**















These are made of rubber and have anti-static properties. Hand gloves protect the operators' hand against flying abrasive and static charge if any.





SPARE PARTS LIST OF ARC SPRAY GUN (DC DRIVE) Model: 102DC/8835

PART NO.	DESCRIPTION	ITEM
102-01	CLOSE HEAD	
102-01-ASSY.	CLOSE HEAD ASSEMBLY	
102-02	NOZZLE POSITIONER LONG SLOT	
102-02	NOZZLE POSITIONER LONG CROSS SLOT	
102-02-S	NOZZLE POSITIONER SHORT SLOT	
102-02-S	NOZZLE POSITIONER SHORT CROSS SLOT	
102-03	NOZZLE CAP GOLDEN (Extra Fine/Medium)	
102-03	NOZZLE CAP GREEN (Medium / Coarse)	
102-03	NOZZLE CAP BLUE (Medium / Coarse)	
102-03	NOZZLE CAP RED (Extra Fine Spray)	
102-04	PROTECTIVE CAP	
102-05	TERMINAL ASSEMBLY	
102-06	INSULATOR SHEET	
102-06A	MOUNTING PLATE	
102-07	CONTACT TUBE	
102-07A	CONTACT TIP 1.6MM (BRASS)	
102-07A	CONTACT TIP 2.0MM (BRASS)	
102-07A	CONTACT TIP 2.5MM (BRASS)	
102-07A	CONTACT TIP 3.17MM (BRASS)	

PART NO.	DESCRIPTION	ITEM
102-07B	CONTACT TIP 1.6MM (COPPER)	
102-07b	CONTACT TIP 2.00MM (COPPER)	
102-07b	CONTACT TIP 2.5MM (COPPER)	
102-07b	CONTACT TIP 3.17MM (COPPER)	
102-GM4-08	MOTOR GEAR MOUNTING SCREW	
102-AM4-10	SIDE COVER PLATE SCREW	
102-AM4-10	DRIVE GEAR SCREW	
102-11	BEVEL GEAR DRIVE BOX (DC DRIVE)	
102-12	MOTOR MOUNTING SCREW	
102-AM4-12	SCREW FOR GEAR BOX ASSEMBLY	
102-12	WORM SHAFT (Standard Speed)	
102-12	WORM SHAFT (High Speed)	
102-13	REAR BEARING WARM SHAFT	
102-14	YOKE SUPPORT TUBE DOWEL	
102-15	YOKE SUPPORT TUBE	
102-SM5-15	HEAD FIXING SCREW	
102-AM4-16	HEAD MOUNTING SCREW	
102-16	INNER YOKE	









SPARE PARTS LIST OF ARC SPRAY GUN (DC DRIVE) Model: 102DC/8835




PART NO.	DESCRIPTION	ITEM
102-17	OUTER YOKE	
102-18	YOKE BEARING	
102-19	ROLLER SHAFT	
102-GM4-19	LEVER LOCKING SCREW	
102-20	WIRE ROLLER ASSEMBLY	
102-AM5-20	TERMINAL FIXING SCREW	
102-21	WORM WHEEL (Standard Speed)	
102-21	WORM WHEEL (High Speed)	
102-21a	WORM WHEEL RETAINING SCREW	
102-22	LEVER CAM SHAFT	
102-24	ROLLER OPENING LEVER	
102-24A	LEVER LOCATING PIN	
102-24B	ASSEMBLY ROLLER OPENING (Incl. Part No. 22/24/24A)	
102-25	TENSION SCREW	
102-26	PLAIN SPRING SUPPORT	
102-27	TENSION SPRING	
102-28	THREADED SPRING SUPPORT	
102-29 R	RIGHT HAND SIDE COVER PLATE	
102-29 L	LEFT HAND SIDE COVER PLATE	

PART NO.	DESCRIPTION	ITEM
102-30ED	SHORT REAR WIRE GUIDE	
102-31ED	LONG REAR WIRE GUIDE	
102-32	SHORT FRONT WIRE GUIDE	
102-33	LONG FRONT WIRE GUIDE	
102-34	FLEXIBLE WIRE GUIDE (TEFLON)	
102-AM4-35	SCREW FOR HOLDING DRIVE UNIT	
102-35	GAS KET	
102-36	AIR CONNECTOR	
102-42	FIXING NUT FOR WIRE ROLLER	
102-43	GUN HOLDING PLATE	
102-43A	MOUNTING STUD	
102-43B	MOUNTING STUD LOCK WASHER	
102-43C	NUT	
102-44	CLAMP FIXING SCREW	
102-50	HOOD	
102-51	HOOD SCREW	
102-56	BEARING FRONT (WORM SHAFT)	
102-57	WASHER FOR GEAR	
102-60	ROLLER COVER	



SPARE PARTS LIST OF ARC SPRAY GUN (DC DRIVE) Model: 102DC/8835

PART NO.	DESCRIPTION	ITEM
102-84	ELECTRIC MOTOR (DC)	
102-85	DRIVE GEAR (MOTOR)	
102-86	DRIVE GEAR (SHAFT)	
102-92	GEAR BOX ASSEMBLY	
102-93	INSULATED WIRE GUIDE HOLDER	
102-94	REAR WIRE GUIDE	

PART NO.	DESCRIPTION	ITEM
102-95	CURRENT CABLE WITH COPPER LUG (2 Nos.) (STD. LENGTH 5 MTRS.)	
102-96	REMOTE CONTROL	
102-97	CONNECTING AIR HOSE (STD. LENGTH 5 MTRS.)	
102-98	TEFLON TUBE WITH FITTING (3 MTR. LENGTH)	
102-99	MOTOR CABLE WITH PIN	
102-100	ARC SMC FITTING	

OTHER PRODUCT RANGE & CONSUMABLES



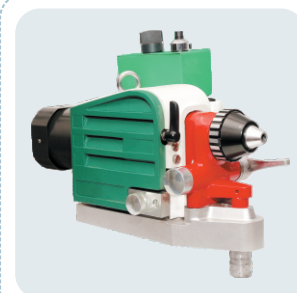
WIRE FLAME SPRAY GUN
12M



WIRE FLAME SPRAY GUN
11M



WIRE FLAME SPRAY GUN
14M



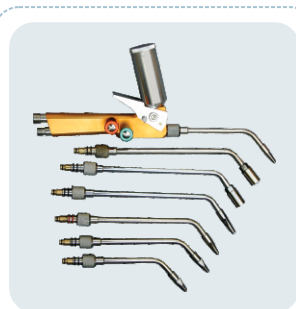
WIRE FLAME SPRAY GUN
5KM



FLAME SPRAY POWDER GUN
5PM-II



FLAME SPRAY POWDER GUN
6PM-II



SPRAY & FUSE
ST-100



POWDER FEEDER



TWIN POWDER FEEDER



SPRAY BOOTH



**HVOF
CONTROL CONSOLE**



WIRES



POWDER



TURN TABLE



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