

ARC SPRAY SYSTEM

POWER SOURCE WITH CONTROL CONSOLE

The power source with the control console is the most important and heart of the Arc Spray System. It is a single unit having an inbuilt power supply and control console. The Power Source is equipped with an electronic control circuit adapted to arc spraying of various materials. The melting-off energy in the arc is more uniform than in conventional arc spraying power sources. This also applies to the droplet size and heat content of the individual particles. Overheating of the spray particles is reduced; burn-off rates are minimized. Together, these factors result in improved coating quality.

It is a maintenance-free system with forced cooling to keep the system cool and dustproof during operation. The front panel of the power source has a main ON/OFF switch, air pressure regulators, and air pressure gauges to control the air, R, Y, and B indicators for the electricity phases, voltmeter and ammeter for indicating the voltage and current used for spraying. An emergency push button switch is provided to stop the system immediately in emergency conditions. The wire feed is shown with a help of an indicator and can be regulated through the regulator provided when used with 102DC Arc Spray Gun. OCV check push button is provided to check the open-circuit voltage or the arc voltage settings. The voltages can be changed using coarse and fine selector switches to achieve the desired value. Fault indicators are put for high

temperature and low air pressure. The output terminals are placed at the bottom of the panel for connection to the Gun. A high-velocity option can be provided to specific models to increase the velocity of the particle for enhanced deposition efficiency, bond strength and fine spray.

For the MCP-400 and MCP-600 Dual Air and Electric Drive Models, the control panel has a unique feature that allows the usage of both Metal Coat Air Drive 100AD and Metal Coat DC Drive 102DC Gun one at a time using the same control console. This feature is of utmost importance when one of the guns needs repair. The 102DC is recommended for machine mount applications, it may also be used for manual applications. The 100AD is recommended for hand working or manual operation because of the low weight. A selector switch is provided for the electric drive and air drive selection in these models.

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Features

- The Arc Spray systems are available in three different capacities – 250A, 400A and 600A.
- The construction of the power source is such that the control panel is mounted over it and all the controls are inbuilt, operated simply through switches.
- The control panel inbuilt with a power source is tiltable, thus easing the process of repairing and maintenance when required.
- The compact design of the power source makes it suitable for on-site and in-shop thermal spray coating applications.
- Various interlocks are provided in the power source for safe operation.
- Indicators for power, system ready and fault are provided on the front panel to keep the operator informed.
- An air moisture separator is fitted on the backside to ensure clean input air.
- For the model MCP-600, the control console is detachable. It can be moved away from the power source, near to the coating area, if needed.



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Arc Spray System	POWER SOURCE WITH CONTROL CONSOLE		
	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	No	On Request	Yes
Wire Size (Diameter)	1.6mm to 2mm	1.6mm to 2.5mm	2mm to 3.17mm
Wire Feed	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±10%	415V±10%	415V±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	18-65
Max. Output Current			
@ 60% Duty Cycle	250 (Amp.)	400 (Amp.)	600 (Amp.)
@ 100% Duty Cycle	190 (Amp.)	310 (Amp.)	465 (Amp.)