

Equipment Specification

528E S250/V300 & S450 Arc Spray Systems



SUPPLIES PACKAGE

1 GENERAL

The following specification covers the standard range of 528E S250/V300 & S450 Arcspray systems. For the specific offer, please refer to the attached quotation and cross-reference the part numbers for each piece of equipment.

2 BENEFITS

- Pull system ensuring quality coatings with consistent operation.
- Proven Arcspray system for automatic production environments
- High Throughputs reduced spray times
- Suitable for Anti-corrosion and Engineering wires, steels, copper and bronzes.
- Sealed/lubed for life DC electric motor.
- Uses 1.6mm to 3.17mm wire sizes without changing feed rollers.
- Easy to maintain, less than 3 minutes to change contact tubes and nozzles.
- Low running costs as compared with gas systems.
- Variable wire speed control allows spray rate to change with production requirements.
- Soft start for smooth start ups reducing electrical loading on components.
- Steel reinforced conduits for extended service life.
- Safety interlocks.
- Choice of coating textures.
- Over 350 528 systems sold into automatic applications since 1994.

3 ARC528E PISTOL



The Pistol has been designed to give consistent throughputs with high coating quality. It is a heavy-duty unit with a robust construction.

Available Pistols:

Part No	Description
ARC528E-CG16	Arc528E Pistol for 1.6mm wires (all wires)
ARC528E-CG20	Arc528E Pistol for 2.0mm wires (all wires)
ARC528E-CG23	Arc528E Pistol for 2.3mm wires (all wires)
ARC528E-CG23H	Arc528E Pistol for 2.3mm wires Hi Throughput (all wires)
ARC528E-CG32A	Arc528E Pistol for 3.17mm wires (Aluminium wire)
ARC528E-CG32Z	Arc528E Pistol for 3.17mm wires (Zinc wire)

Technical overview:

- Designed to spray both Anti-corrosion and Engineering coatings.
- Standard 1.6 through to 3.17mm wire size, 2.5mm available
- No requirement to change feed rollers when changing wire sizes.
- CG (constant geometry head) ensuring smooth feed, repeatable wire alignment and no adjustment of contact tubes required.
- The Drive box is factory lubricated for longer life.
- A range of spray head sizes to accommodate high spray rates, large wire diameters and fine coatings, small wire diameters.
- Closed arc for improved spray conditions and efficiency.
- Armature voltage feed back for closed loop wire speed control.
- Tacho feed back for Motor speed display and integration into closed loop production systems.

Technical data:

Description	Characteristics
Maximum Current	1000 Amps
Weight	7.4 Kgs
Weight – at a height of 1.2 M	10 Kgs – inc Cables and Hoses
Width	100mm
Length	590mm
Height	155mm

Typical performance figures for the ARC528E pistol:

Material	Reference	Wire Size	Throughput Kg/hr @ 350 amps	Maximum Coverage m ² /kg/100µm
Zinc	02E	2.0mm 2.3mm	36.0	0.82
Aluminium & Alloys	01E/17E/25E	2.0mm 2.3mm	8.5	2.88
Zinc/Aluminium 85/15	21E	2.0mm 2.3mm	31.0	1
Copper	05E	1.6mm	17.5	0.91
Steels	30E,35E,45 55E,57E,60E 65E,80E,84E	1.6mm 2.3mm	15.8	1.02
Nickel Aluminium	75E	1.6mm	19.0	0.91

Throughput is assumed to be independent of wire diameter

Material	Reference	Wire Size	Throughput Kg/hr @450 amps	Maximum Coverage m ² /kg/100µm
Zinc	02E	3.17mm	46.5	0.82
Aluminium & Alloys	01E/17E/25E	3.17mm	11	2.88
Zinc/Aluminium 85/15	21E	3.17mm	40	1

4 SUPPLIES PACKAGE

Available Supplies Package:

Part No	Description
SUP528E-5	5M Supplies Package for S250 / V300 Energiser
SUP528E-5 45	5M Supplies Package for S450 Energiser
SUP528E-10 1	10M Supplies Package for HT 450

Standard Supplies Package includes:



**Power, Air and
Control Cables**



Wire Conduits

Technical overview:

- 5 to 10 meter supplies packages for integration to Energisers.
- 3 to 5 meter wire feed conduits from wire dispenser to 528E Pistol.
- Protective cover supplied for protection in a workshop environment.
- Various wire conduits to suit different applications and wire dispensing methods.
- Supplied with all fittings appropriate to connect to 528E Pistol and Energisers.
- Steel reinforced conduits for extended service life.
- Power cables fitted with crimped lugs.
 - 7144 PTFE tubing used for dispensing 3.17mm wires and above
 - 36892 5 meter wire conduits are supplied when dispensing 2.3mm wire.
 - 36890 3 meter wire conduits are supplied when dispensing 2.3mm wire.

5 ENERGISERS



The range of energisers has been specifically designed for those users who are likely to spray a varying range of materials with the options of both high and low outputs. Ideally suited for the anti-corrosion industry and general engineering workshop.

Available Energisers:

Part No	Description
2220E	S250 Energiser, External Control
2220DE	S250 Energiser, External Control, Dual Voltage
2220EIR	S250 Energiser, Inbuilt 1600 Controller
2220EI-S/S	S250 Energiser, Inbuilt 1600 Controller, Remote Start/Stop
2228E	V300 Energiser, External Control (Engineering)
2228DE	V300 Energiser, External Control, Dual voltage (Engineering)
2232E	S450 Energiser, External Control
2232DE	S450 Energiser, External Control, Dual Voltage
2232EIR	S450 Energiser, Inbuilt 1600 Controller

Technical overview:

- Specifically designed to suit only Arcspraying.
- Clear displays and large controls give ease of operation.
- Rigid construction & castor mounted offers workshop portability.
- Simple design for ease of maintenance
- S250 and S450 have switched output voltage control
- S250 and S450 are available with an Inbuilt Electronic Controller.
- V300 gives infinitely variable output voltage for precision control on engineering applications.
- Dual Voltage available allowing 200, 380 & 440 Volt, Three phase input
- 0-10 vdc input allows connection to production equipment to vary spray rate with production rate (e.g. match spray speed to tube mill speed)
- Current sensing relay detects and alarms if spraying stops

4.1 S250 Energiser Specification:

Description	Characteristics
Power Requirements	380/440V 50-60Hz 3 Phase
Power Option	220/380/440V 50-60Hz 3 Phase
Fusing Required	20A/Phase (415V input)
Max Power Consumption	11.8 KWH
Duty	0-250 Amps @ 100% Duty Cycle
Output Voltage	0-45Vdc (nominal) Switched High/ Low & 1 - 5
Air Requirements	1.27m ³ /min @ 5.5bar (45cfm @ 80psi)
Weight	210 Kgs
Width	560mm
Length	1015mm
Height	1000mm

4.2 V300 Energiser Specification:

Description	Characteristics
Power Requirements	380/440V 50-60Hz 3 Phase
Power Option	220/380/440V 50-60Hz 3 Phase
Fusing Required	30A/Phase (415V input)
Max Power Consumption	14.2 KWH
Duty	0-300 Amps @ 100% Duty Cycle
Output Voltage	0-45Vdc (nominal) Infinitely variable
Air Requirements	1.27m ³ /min @ 5.5bar (45cfm @ 80psi)
Weight	305 Kgs
Width	560mm
Length	1015mm
Height	1000mm

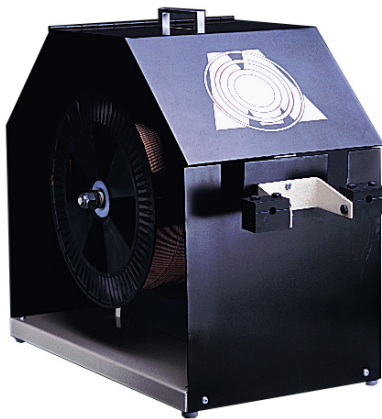
4.3 S450 Energiser Specification:

Description	Characteristics
Power Requirements	380/440V 50-60Hz 3 Phase
Power Option	220/380/440V 50-60Hz 3 Phase
Fusing Required	40A/Phase (415V input)
Max Power Consumption	21 KWH
Duty	0-250 Amps @ 100% Duty Cycle
Output Voltage	0-45Vdc (nominal) Switched High/ Low & 1 - 5
Air Requirements	1.27m ³ /min @ 5.5bar (45cfm @ 80psi)
Weight	290 Kgs
Width	560mm
Length	1015mm
Height	1000mm

6 WIRE DISPENSE

The wire is dispensed in many forms for the ARC528E Arcspray system, from Standard Spools or Mig Reels to Coils and Production packs for Zinc and aluminium.

6.1 Wire Dispenser:



Portable wire dispenser for dispensing from MIG reels as standard.

Shown with 2399BRACKET, bracket for remote mounting fitted to front.

Available wire dispensers:

Part No	Description
2398C	Wire Dispenser 300mm ID Spools
2398C-MIG	Wire Dispenser MIG Reels
2399BRACKET	Bracket for remote mounting of wire dispenser

Technical overview:

- Specifically designed to suit Arcspraying with the reels / spools being individually insulated from each other.
- Variable brake tension to ensure wire does not uncoil.
- Designed to ensure a smooth wire feed to the pistol.
- Rigid construction
- Ease of loading and unloading of Spools/Reels.

6.2 Wire Dispensing Cones (Pulley):



Technical overview:

- Suitable for dispensing Zinc and Aluminium wire
- Specifically designed to suit Arcspraying with the each drum being individually insulated from each other.
- Fitted Pulley to ensure a smooth wire feed to the pistol.
- Rigid construction
- Ease of loading and unloading of the wire.
- Drums available in 125kg and 250 Kg for Zinc plus 100Kg for Aluminium.
- Needs to be used with a wire drive unit and skid (see section 6)

6.3 Two Tier Wire Dispenser:



Technical overview:

- Suitable for dispensing raw materials that are only available in wire form
- Wire straighter (for engineering wires) to ensure smooth wire feed to the pistol
- Specifically designed to suit Arcspraying with the each coil being individually insulated from each other.
- Variable brake tension to ensure wire does not uncoil.
- Designed to ensure a smooth wire feed to the pistol.
- Rigid construction
- Lower tier swings out for Ease of loading and unloading of the Coils.
- Castors fitted to the bottom of the dispenser allowing excellent manoeuvrability.
- Needs to be used with a wire drive unit and skid (see section 6)

7 TOOL KIT

Appropriate hand tools are supplied with the Arcspray system along with an operating manual.

8 OPTIONS

The Arcspray 528E system can also use a variety of optional extras these include the following items

8.1 Electronic Controllers:



The Metallisation Electronic Controller is used in conjunction with the Arcspray 528E Electric Drive Pistol to give the optimum in control and reproducibility of spraying. The spray rate is controlled through a closed loop feedback control system to give a feed accuracy of +/-2%.

Available Electronic Controllers:

Part No	Description
2250B	1600I Electronic Controller, remote 0 – 10 Vdc

Technical overview:

- Electronic control board variable “dc” voltage output for smooth wire speed control.
- Simple operation of control system.
- Lockable motor speed control ensuring accurate wire feed over many months of operation.
- Speed meter directly proportional to wire speed.
- Start / Stop on Controller
- Remote Start / Stop & Safety interlocks via multi-pin sockets on the rear of the controller.
- Faults indicated by a pair of Light emitting diodes on the front panel.
- Panel / Remote switch on front panel.
- Interfacing available between Metal spraying process and other process machinery
- 0-10 vdc input allows connection to production equipment to vary spray rate with production rate (e.g. match spray speed to tube mill speed)
- Current sensing relay detects and alarms if spraying stops

- **Electronic Controller:**

Description	Characteristics
Power Requirement	110V 50-60Hz 1 Phase, taken from Energiser
Weight	12 Kgs
Width	495mm
Length	350mm
Height	175mm
Indicators	Mains, Faults, Wire Speed, Air, Power, Motor Stop/Start
Switches	Fault reset, Panel/Remote, Motor Start, Motor Stop, Air On/Off, Power On/Off

8.2 Arc Beam:

Part No	Description
ARCBEAM	Arcbeam for 1.6mm ARC528E Pistol
ARCBEAM(2.0)	Arcbeam for 2.0mm ARC528E Pistol
ARCBEAM(2.3)	Arcbeam for 2.3mm ARC528E Pistol

Technical overview:

- Reduces Arcspray footprint.
- Finer Coatings
- Improved Deposit efficiency when spraying onto small components.
- Less apparent porosity.
- Improved hardness.

Technical data:

Description	Characteristics
Maximum Current	350 Amps
Compressed Air	0.7m ³ / min @ 3.5 Bar

8.3 Arc Extensions:

Part No	Description
ARCEXT*500	Arcspray deflector extension 1.6mm, 500mm Long
ARCEXT*1000	Arcspray deflector extension 1.6mm, 1000mm Long
ARCEXT*1500	Arcspray deflector extension 1.6mm, 1500mm Long

Technical overview:

- Suitable for internal bores (min Diameter 75mm) or recesses.
- Variable deflected spray from 0 to 75 Degrees
- Rigid construction

Technical data:

Description	Characteristics
Maximum Current	200 Amps
Compressed Air	0.6m ³ / min @ 4.5 Bar