

Twin Wire Arc Spray Technology

EuTronic Arc Spray 4



COATING

- For anti-wear and anti-corrosion cold sprayed coatings
- Designed to spray EuTronic Arc Wires for best results
- High productivity with spray rates from 8 to 36 kg/hr
- Reliable Push Pull system for spraying in all positions
- Nozzles and contact tubes exchangeable in less than 3 minutes for ease of maintenance

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EuTronic Arc is the highest productivity thermal spraying process. EuTronic Arc is an Arc Spray Process using a pair of wires which are melted by an electric arc. This molten material is atomised by compressed gas and propelled towards the work-piece to form a coating. EuTronic Arc is a cold spray process having the advantage of not requiring the use of oxygen, kerosene or a combustible gas which means more economic coatings. Low running costs, high spray rates and efficiency make it a good tool for spraying extensive areas or a large number of parts.



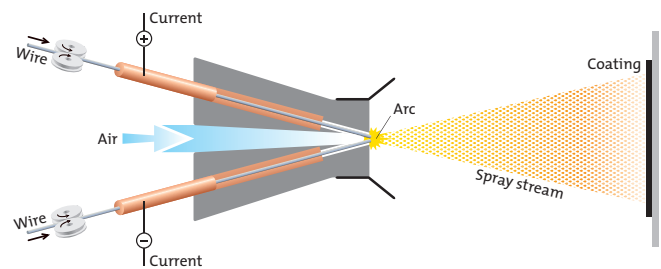
The Gun 4 has been designed to give consistent throughput with high coating quality. It is a lightweight, heavy-duty unit of robust but compact construction.

EuTronic Arc Process

As the electrically conductive wires are fed towards each other, a short circuit is established between the wires creating an arc with a temperature of around 5'000°C. This heat causes the wire tips to melt. Compressed gas – most often air – is used to atomise the molten tips and propel the droplets towards the substrate at velocities exceeding 100 meters per second. This combination of high temperature and particle velocities gives arc sprayed coatings superior bond strengths and low porosity levels at high spray rates. Furthermore, this Twin Wire Arc Spray technology is a “cold process” as the substrate temperature can be kept low during spraying avoiding metallurgical changes and distortion within the workpiece.

EuTronic Arc provides a wide range of benefits compared with conventional welding processes :

- Most substrate types can be coated
- No thermal distortion or metallurgical alteration of the substrate
- Low pre-heating requirements
- Low heat input during spraying
- No heat treatment after coating
- No dilution of the coating
- Fastest coating speeds
- Better control over deposit thickness reducing machining time and saving materials.



Plus the following benefits compared with painting, zinc galvanising or chromium plating :

- Sprayed zinc or aluminium used as primer bond layers for paints
- No advantage of paints over adequately sealed, sprayed metal coatings
- More robust than paints to withstand rougher handling and service
- Sacrificial action, particularly of sprayed zinc, prevents corrosion from edges of damaged sprayed coating
- Immediate corrosion protection with sprayed corrosion resistant wires
- Infinite shelf life if properly stored
- No effluent disposal problems
- No size limit for parts to be treated
- On site coating possible
- Variation of coating thickness from area to area to provide extra protection
- Used to restore corrosion protection on damaged areas of welded galvanised steel.

EuTronic Arc Spray 4 system

The EuTronic Arc Spray 4 is robust, reliable and easy to use. The Arc Gun and the drive system are coupled to a 350 amp, switched voltage power source.



This power source features sealed electronics for excellent reliability in the harshest of spray environments. The wire feeder unit is neatly mounted on the power source, leaving it free to swivel and follow the operator whilst spraying. Other options include either floor or trolley mounting. There is no

motor in the gun. Instead, the Gun 4 uses a patented 'Synchrodrive' system, where a single, sealed motor with a flexible drive arrangement, powers a reliable, positive drive push/pull up to a distance of 20 m. This results in a long reach and lightweight flexibility of the gun and supplies. For the operator, working conditions are more comfortable and productive.

- Sealed 350 amp power source for reliability
- 1.6 mm wires standard. From 1.6 mm to 2.5 mm optional
- Air cooled cables for low weight
- Excellent gun manoeuvrability
- 5 m supplies packages standard
- Steel reinforced, PTFE lined wire conduits
- Easy to maintain for lower downtime costs
- Wire spool, coil and drum feeder option capabilities
- Soft start for smooth start ups.

Optional accessories

ArcJet :



The ArcJet fits on the gun to inject air in front of the nozzle. The ArcJet constricts the spray pattern thus reducing overspray and allowing more confined areas

such as deep slots, to be sprayed. Therefore significant improvements in deposit efficiency can be made especially on small diameter components.

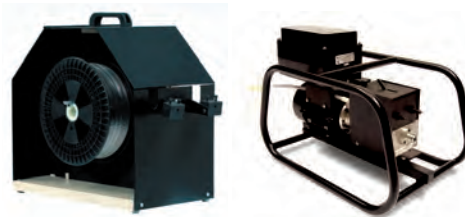
Arc spray extension neck :

The arc spray extension neck enables an improved access to awkward areas such as deep bores with a minimum diameter of 75 mm and rear sides of welded stiffeners etc. The extension neck allows for spraying either straight ahead or at an angle and for applications using power up to 200 amps.



It is available in 3 different lengths 500, 1000 and 1500 mm.

Remote wire feeder :



A remote wire feeder device is available for limited access applications such as via manholes.

Supplies packages :

The supplies packages consisting of cables and conduits are available in different lengths 5, 10 and 20 meters.



Power, Air and Control Cables

Flexible Drive Cable

Wire Conduits

Remote control :



The 5 meters remote control allows a remote operation of the EuTronic Arc Spray 4 system with robust design for use on semi-automatic installations. The remote control buttons and switch mimic those of the Gun.

Proficiency for arc spray applications with EuTronic Arc Wires :

EuTronic Arc Wires are unique, specially formulated for Arc Spraying to provide industry with wear and corrosion protection solutions. The EuTronic Arc Spray 4 system is designed to spray solid and cored wires for many different applications with outstanding results. Spray rates from 8 to 36 kg/hr can be achieved depending on the sprayed alloy.

Typical applications :

- Anti-wear coatings
- Bridges (concrete and steel)
- Cement works
- Engineering bond coats
- Mining
- Offshore/oil & gas
- Pulp and paper
- Steel works
- Shipbuilding/marine
- Structural steelwork
- Thermal power plants
- Vessels and enclosures
- Waste and recycling
- Wind turbine towers, fences



Castolin Eutectic application specialists working in the field are never far away. The secret of our success is our close cooperation and partnership with customers. The Terolink database makes documented solutions for applications accessible. Together we can analyse your individual requirements and develop cost-effective, tailor-made solutions. Let us advise you.

Your resource for protection, repair and joining solutions

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