AWS-400 ARC WIRE SPRAY SYSTEM

- AWS-400 -

- ✓ Simple, Reliable, Field Proven
- ✓ Instant ON/OFF
- ✓ Portable design
- ✓ Excellent Quality Coatings (metallic)
- ✓ Low Operating Costs
- ✓ Low Capital Investment Costs
- ✓ High spray rates
- ✓ High Bond Strengths
- ✓ Pseudo alloys
- ✓ Increased consumables sales (wires & spares)
- ✓ Cored Wires increase application opportunities

AWS-400 OVERVIEW

- AWS-400 -

AWS-400 Wire Feed Unit
Incl. Controls

AWS-400 Power Supply

AWS-400 Spray Gun

AWS-400 Hose & Cable Set

AWS-400 POWER SUPPLY

- AWS-400 -

- Robust, three phase, SCR rectified, constant potential DC power source, provides arc voltages between 18-40 volts, permits operation between 15-400 amps at 100% duty cycle.
- Arc gap and spray particle size increase with a rise in voltage. Voltage should be kept at the lowest level consistent with arc stability, to provide smooth and dense coatings.
- All functions are controlled from AWS-400 Wire Feeder.
- Remote control capability, up to 15mtr (50 feet) from AWS-400 Wire Feeder, when outfitted with standard power and control cables.
- Fan On Demand feature operates cooling fan only when needed, minimizing dirt, dust and moisture buildup within the power supply thereby minimizing maintenance.

AWS-400 WIRE FEEDER

- AWS-400 -

- Rugged Quick Change, four-drive roll per wire feed mechanism.
- Bypass air is directed to the drive housings and routed into the coaxial cables. This air is used to blow debris and dust off the consumable feedstock prior to it entering the coaxial cables.
- Closed-loop, servomotor motor drive delivers wire in a reliably to Arc-Spray Gun.
- Faceplate houses main controls including: E-stop, Power, Wire Jog, Purge Air, Voltage Control, Amperage Control etc.
- Voltage and Amperage digital meters Features operator adjustable LED display hold. Allows operator to adjust time, up to 10 seconds that meters will hold their last display value for, after the gun trigger is released.
- All Switches are environmentally sealed and rated for over one million operations.
- Wire reel holder (D-300). Any electrically conductive material in wire form may be sprayed with the two-wire arc spray process.

AWS-400 WIRE FEEDER

- AWS-400 -

- **Wire counter** Re-settable LCD meter that displays wire fed in feet/meters during spray operation.
- **Time counter** Re-settable LCD meter displays elapsed spray times. Timer is activated automatically whenever spray unit is operating.
- **Remote/Local Voltage Control** Switch allows for remote control of arc voltage when incorporating AWS-400 to automation. Disables voltage panel control on faceplate.
- **Remote/Local Amperage Control Switch** allows for remote control of arc amperage when incorporating AWS-400 to automation. Disables amperage panel control on faceplate.
- **Preflow adjust** Operator adjustment that lengthens or shortens time that air flow is started prior to arc start. Optimizes arc start for different wire feedstock's
- **Burn back adjust** Operator adjustment that lengthens or shortens time that arc power and atomizing air are left on after trigger is released. Optimizes arc shut off which increases wire tip life.
- **Display/Hold adjust** Holds last voltage and amperage values display from 0-10 seconds after spray operation is complete.

AWS-400 WIRE FEEDER

- AWS-400 -

- AWS-400 Arc Spray Gun is specially designed to minimize operator fatigue and lowers maintenance costs due to the lightweight gunhead 1kg (2.3 lbs.) that features no moving parts.
- Replacing the consumable wire guides in less than 30 seconds using no tools with the exclusive QuickChange Wire Guide System.
- High Velocity Air Cap featuring a Converging/Diverging Air Chamber Geometry, which produces tight, dense spray patterns and smooth coatings. Typical uses of this aircap are engineered coatings, which require low oxides and a tight collimated spray pattern.
- Fan Spray Air Cap, which provides the largest pattern. Typically used with zinc and aluminum feedstock's.

AWS-400 EXTENSIONS

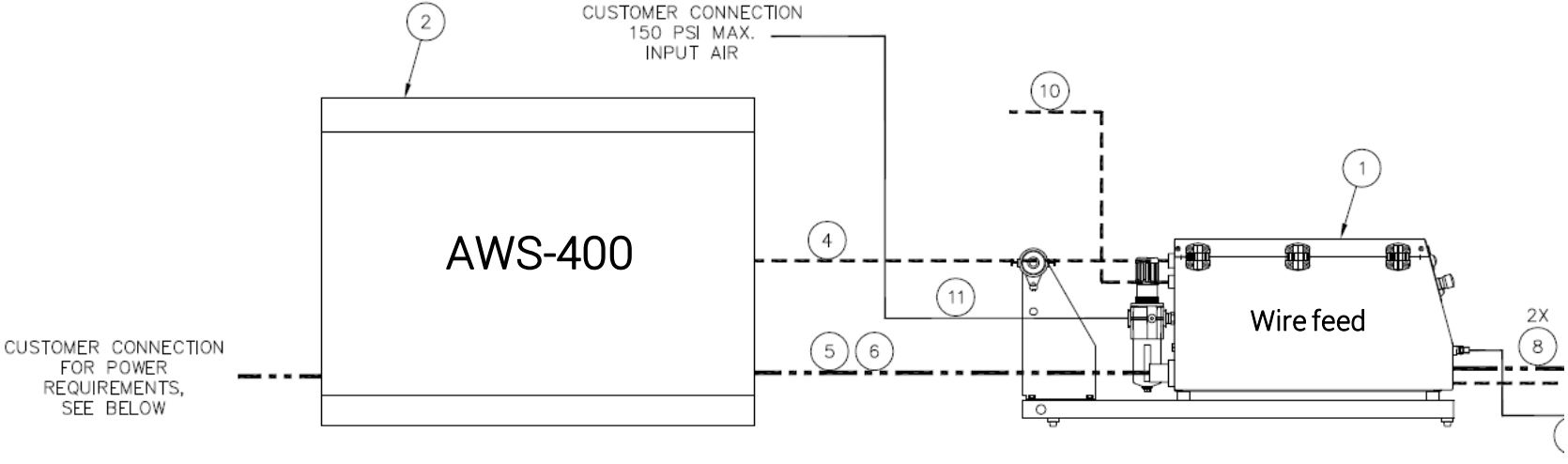
- AWS-400 -

- Optionally:
  - Arc- Spray Extensions for ID Applications
  - Lengths available: 6”, 12” 24”, 36”
  - 90 degrees or Straight ahead

MOBILE WIRE FEED CONTROL

- AWS-400 -

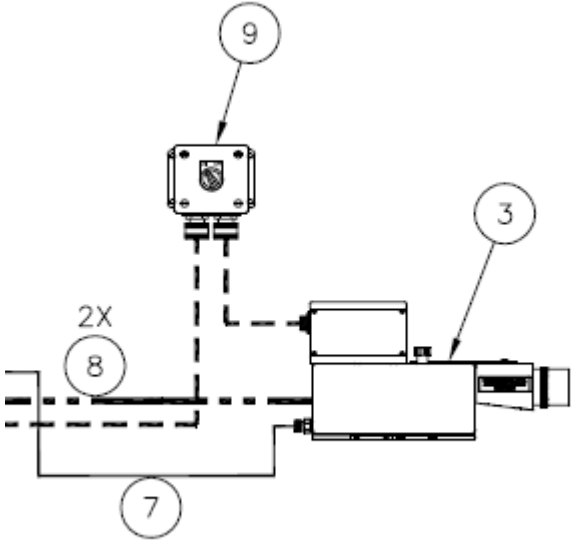
- Option: wire feed control separated and on mobile cart.



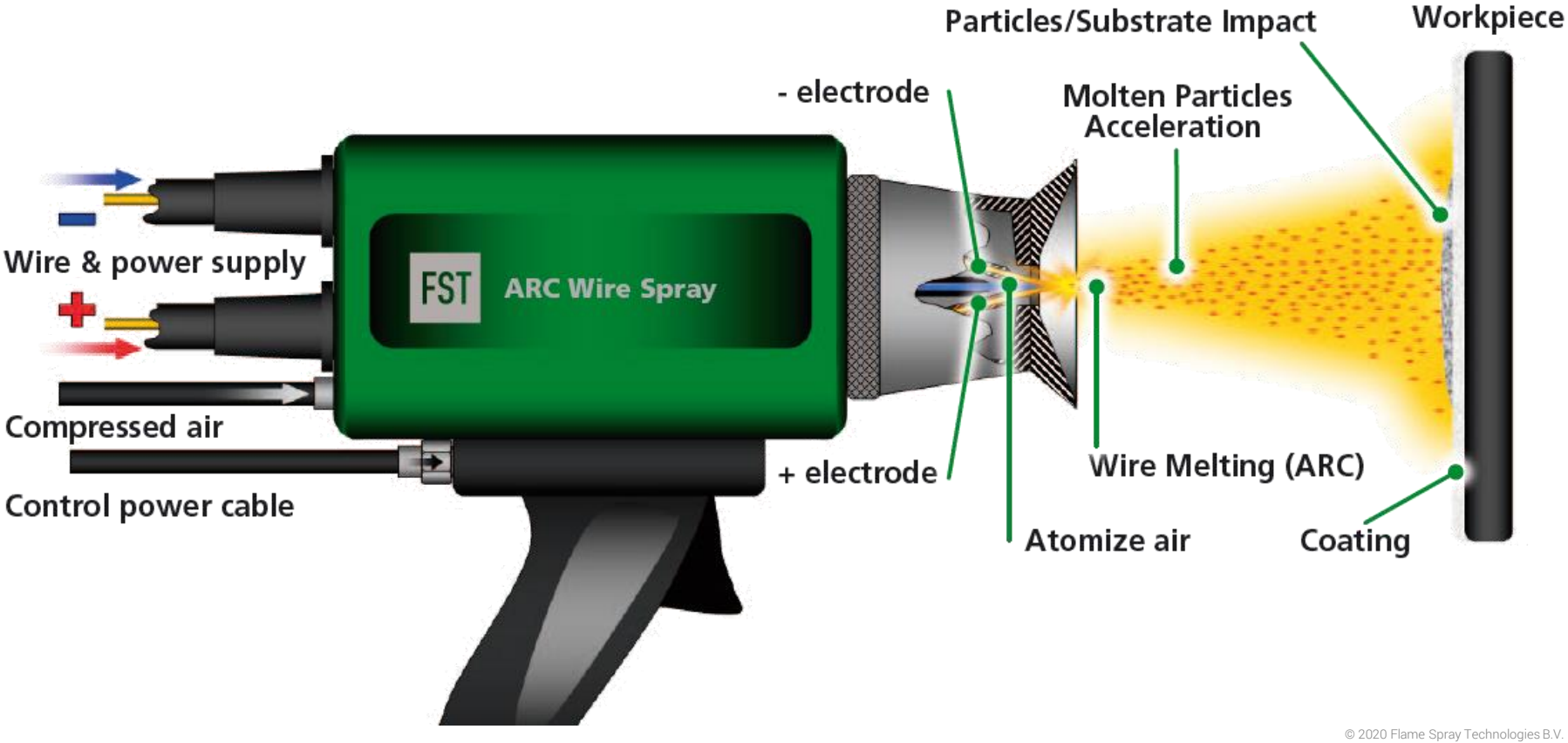
PULL GUN

- AWS-400 -

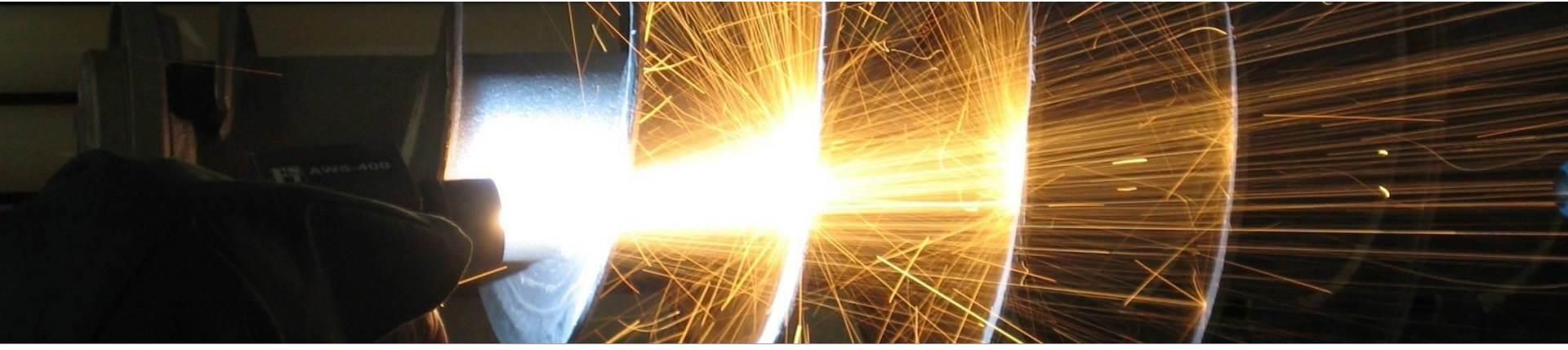
- Option: pull gun
  - To be used when wire cables length exceed 3 meter / 10 feet .
  - Pull gun to be use only stationary or manipulator mounted.



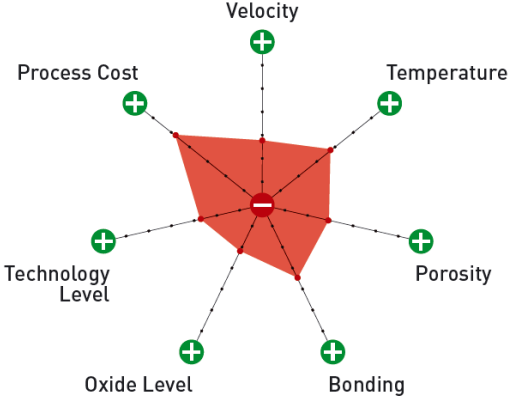
ARC WIRE PROCESS TECHNOLOGY



PROCESS CHARACTERISTICS

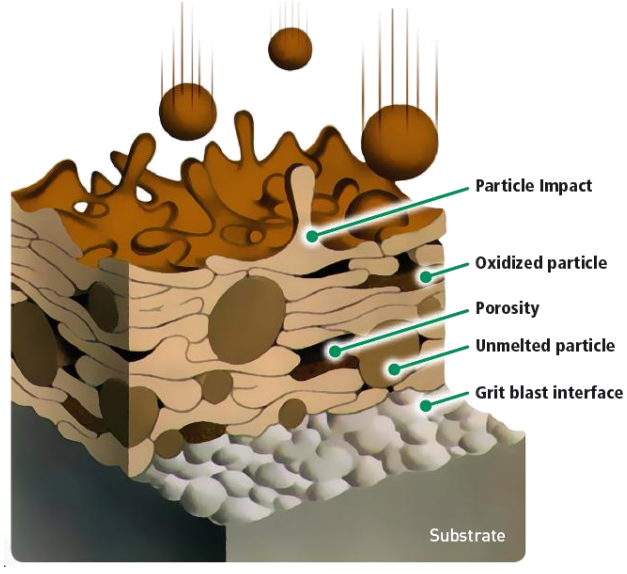


- Feed stock: wire
- El. Conductive wire (also cored)
- Heat is produced by electrical gas discharge (arc)
- Temperature < 4.000 ºC
- Accelerating gas: air or hydrogen
- Particle velocity < 200 m/s

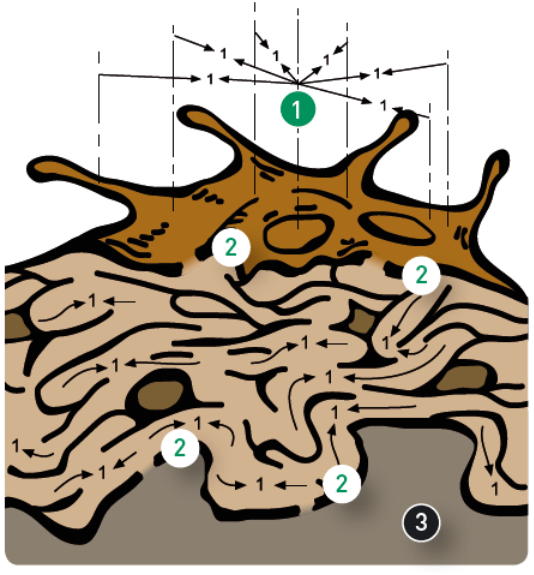


COATING PROPERTIES

- Typical coating
  - Iron based alloys
  - Nickel based alloys
  - Copper & copper alloys
  - Aluminum, zinc, Al/Zn alloys
  - Babbitt alloys
- Main applications
  - Wear resistance
  - Corrosion protection
  - Dimensional restoration
  - Bond coat
- Coating bonding mechanisms
  - Mechanical keying
  - Diffusion bonding
  - Other adhesive



Coating build-up



Bonding mechanisms

AWS-400 SUMMARY MAIN FEATURES

- AWS-400 -

- Pusher Gun
- High Velocity Air Cap (Superior Coating Quality)
- Wide range of materials (wires)
- 400 Amp, 100% Duty Cycle
- Very low maintenance (no moving parts)
- Light weight (1kg)
- Quick-Change wire guides and drive rolls
- Unique running features
- Low Costs (capital and operational)
- An every day tool. A must have for every job shop

LEADING IN THERMAL SPRAY TECHNOLOGY