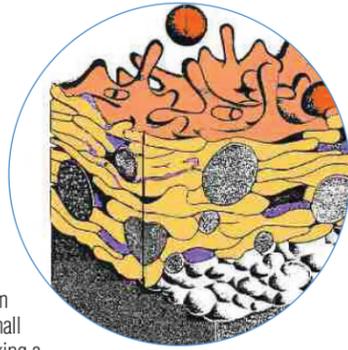


What is a thermal spray coating?

A coating produced by a process in which molten or semi-molten particles are applied by impact onto a substrate.

A common feature of all thermal spray coatings is their lenticular or lamellar grain structure resulting from the rapid solidification of small globules, flattened from striking a cold surface at high velocities.



Feedstock

Any electrically conductive material in wire form may be sprayed with the two-wire arc spray process. Typical wire sizes are listed below:

14 gauge	.062"	1/16"
11 gauge	.091"	3/32"

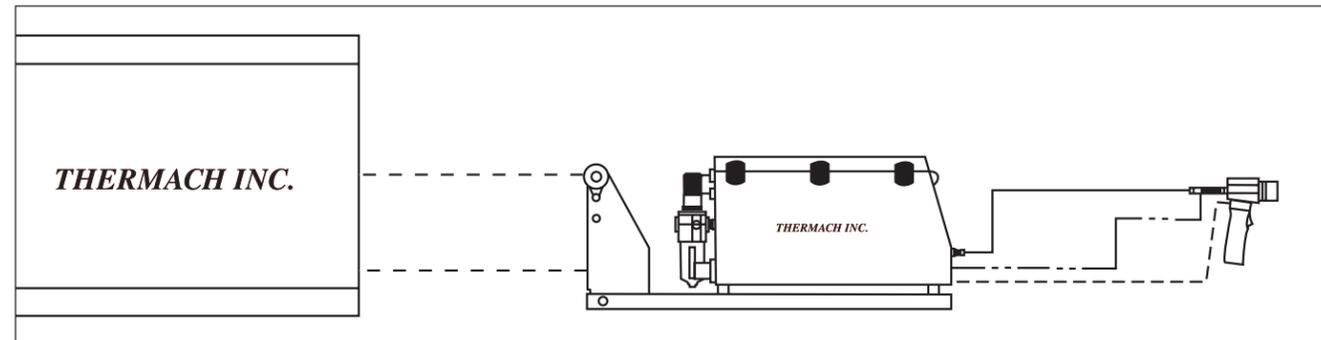
System Requirements for the electrical, 60-hertz model (50 hertz model available):

Volts	200	230	460	575
Input amps at rated output	72	63	32	25
Compressed air requirements:				
PSI	40	60	80	100
Scfh	20	35	50	65

Weight of complete unit: 550 lbs.

Totally Modular Design for a Variety of Work Areas

The **AT-400 Wire Arc Spray System** unit is designed to fit any work space. Stack the individual units on top of each other or separate up to 50 feet at 100% duty cycle.



Imagine...

THE POSSIBILITIES



The AT-400 Two-Wire Arc Spray System

Control costs and operator fatigue with the AT-400 high-performance “push” arc spray system. Wire push method allows for a larger and more robust wire drive system, significantly reduced maintenance costs and gun weight.

THERMACH INC.
THERMAL SPRAY AND MACHINING

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Imagine...

Imagine having the power and flexibility of a 400 amp spray arc spray system with one-fifth the maintenance costs of conventional pull or push-pull systems. You're not dreaming. The **AT-400 Wire Arc Spray System** from Thermach, Inc. offers unmatched performance and unbeatable power.

This specially designed system minimizes operator fatigue and lowers maintenance costs due to the lightweight gunhead (2.3 lbs.) that features no moving parts.

Imagine again replacing the consumable wire guides in less than 30 seconds using no tools with the exclusive patent pending **QuickChange Wire Guide System**. The **QuickChange** four drive roll per wire system features either U-groove or VK-groove drive rolls for positive, slip-free wire feeding. No tools are needed for drive roll or wire diameter changes. Advanced closed-loop regenerative wire drive control system ensures consistent and repeatable coatings.

Expect optimal airflow and atomization with a variety of air caps that are designed to produce the correct spray pattern for any job. From the **High Velocity Air Cap** featuring *Converging/Diverging Air Chamber Geometry*, which produces tight, dense spray patterns and smooth coatings, to the **Fan Spray Air Cap**, which provides the largest pattern.

Feedstock
Any electrically conductive material in wire form may be sprayed with the two-wire arc spray process.

AT-400 Wire Feeder/Control Console

Rugged *QuickChange*, four-drive roll per wire feed mechanism. Bypass air is metered and then 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. The closed-loop, servomotor features a regenerative motor drive. Faceplate controls consist of E-stop, Power Reset, Wire Jog, Maintain Air and Purge Air switches. Power supply controls include Voltage Control, Amperage Control and Digital LED Arc Voltage and Arc Amperage displays. Switches are environmentally sealed and rated for over one million operations. All electronics are housed in a NEMA 12 rated enclosure.

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.

AT-400 Arc Spray Gunhead

Consumable wire electrodes are fed through the internal wire guides and into the *patent pending QuickChange Wire Guides*. Converging/Diverging Air Chamber and Air Cap direct high velocity, laminar flow air across the arc zone. Insulated power cables, charged positive and negative, connect the **AT-400 Gunhead** to the **AT-400 Wirefeeder**. These insulated coaxial cables also provide an internal pathway for the consumable wire to reach the wire guides of the **AT-400 Gunhead**. An On/Off trigger switch is supplied on the detachable gun handle to control the wire feed, compressed air and contactor of the **AT-400 Power Supply**. The **AT-400 Gunhead** is supplied with several hard points for mounting to robots, gun manipulators and fixtures.

AT-400 Power Supply

Reliable, 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 AT-400 Wire Feeder. Remote control capability, up to 50 feet from **AT-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. **AT-400 Power Supply** shown with optional *Running Gear*.

Side Panel Controls



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 AT-400 to automation. Disables voltage panel control on faceplate.

Remote/Local Amperage Control Switch Allows for remote control of arc amperage when incorporating AT-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 feedstocks.

Burnback 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.

QUICK CHANGE WIRE GUIDES

Fan Spray Air Cap

Typically employed with zinc and aluminum feedstock's. This aircap produces a spray pattern with the largest possible spray area.

High Velocity Air Cap

This aircap produces a small, concentrated spray pattern. Typical uses of this aircap are engineered coatings, which require low oxides and a tight collimated spray pattern.

