

Spot Weld, Inc.
2290 Wycliff Street
St. Paul, MN 55114

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www.spotweldinc.com



SPOTWELD Incorporated
Excellence in Resistance Welding

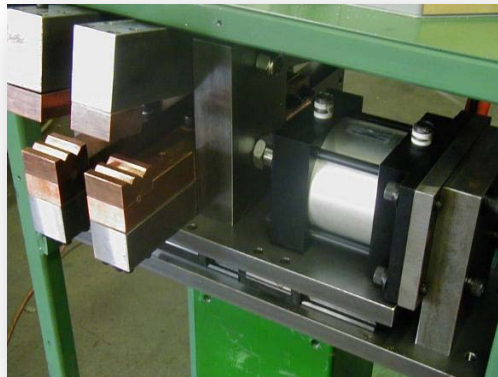
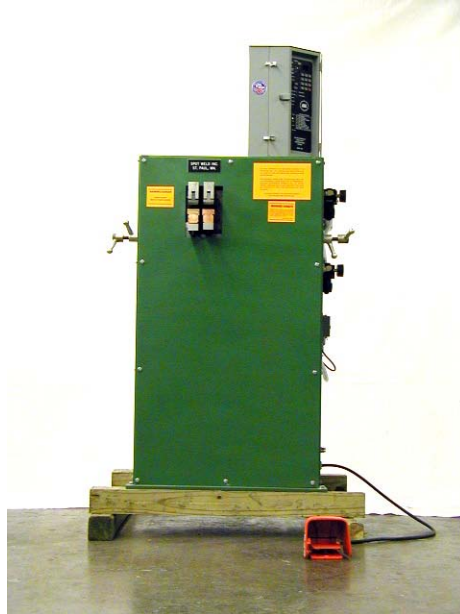
B-Rite Butt Welders

ABOUT US

With 35 years of service and experience, we have the best trained and most knowledgeable resistance welding technicians available anywhere, period. Contact our friendly staff with your welding problem, and we will work efficiently and quickly to solve nearly all of the most complicated resistance welding applications.

BUILT TO YOUR NEEDS

Spot Weld, Incorporated can take your application specifications and build standard or special application spot welders to suit your needs. Just tell us the material you are welding, the metal thickness, and provide us with any special prints or sketches that communicate your welding needs. We'll take it from there!



INTRODUCTION

Spot Weld's B-Rite resistance butt type welder is widely used by the metalworking industries today because of its extreme versatility. This general purpose machine represents a new high achievement in welder design and engineering, and embodies advantages which afford the greatest performance. Its modern design has incorporated ruggedness, accuracy, and reliable uninterrupted performance – all of which are of utmost importance to high production runs.

B-RITE STANDARD SPECIFICATIONS

KVA Sizes: 10, 30, 50, or 100

Power Supply: 220 or 440 V, 50 or 60 Hz

Die Holders: Water cooled, furnished as standard on all machines.

Clamping Dies: Operated by Independent Air Cylinders.

Frame: Rugged, heavy gauge, one-piece, all steel body.

Foot Switch: Air Operated

DESIGN

The Spot Weld, Inc's B-Rite Butt welder is a unique, robust, rigid design intended for high force and high duty cycle industrial applications. It is adaptable for multiple types of tooling, and can be re-built with standard off-the-shelf parts. It can be put on casters for cut-to-length lines, can be used for resistance heating, and can weld multiple types of cross-sections.

Spot Weld has developed a butt welder that is all machined parts. Our slides operate on cam follower bearings and the transformer is tight to the tooling and creates a minimum voltage drop. The entire mechanical action for the butt weld process is basically removable from the machine for service if needed.

Designed for applications that include:

- Joining ends of rods, bars, strips, rings, tubes, forgings and fittings.

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B-Rite Features and Benefits

ADAPTABILITY

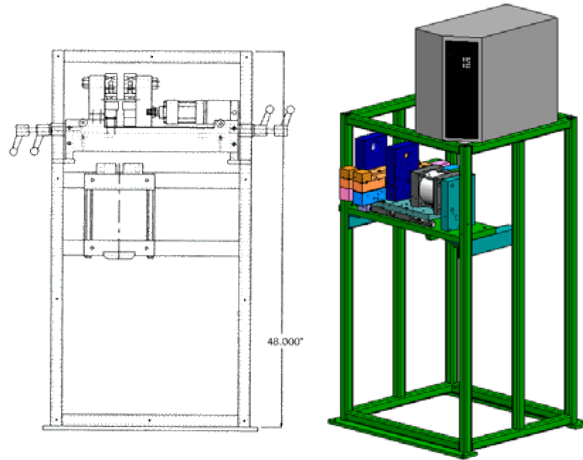
Experience being the best teacher, we have learned how to best align machinery with your needs. We take into account your production rate, your operators needs, electricity prerequisites, and of course your budget.

Confused by all the options available to you? Let us help you select from a long list of resistance welding styles:

- Single-Phase A/C
- Three- Phase A/C
- Medium Frequency Direct Current (MFDC) Inverter
- Seam Welding
- Rapid-Fire Welding
- Capacitive Discharge

ONE STOP SHOPPING

Our in-house capabilities include 3D solid modeling (CAD), Finite Element (stress) Analysis, CNC prototyping, MIG & TIG (GMAW & GTAW) welding, plasma cutting, Horizontal and vertical milling, lathe work, and engineering skills make all this work for you.



The main frame is high quality welded steel construction styled for trim appearance and functional design. With the butt welder the jaws are machined to accept the part you are butt welding. The right hand jaw moves as the power is turned on and welds the parts together. A two stage foot pedal is provided allowing you to put your foot down on the pedal and if the operator sees the part has been mispositioned they can quickly step off the pedal to realignment the part. The selection of a standard machine or the design of a special welder will be determined by the upset forces, along with the necessary clamp forces required as a result of the sectional area of the material being welded.

Optional Equipment

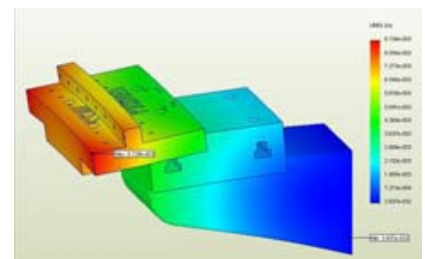
- Electrodes / Electrode Holders
- Chillers, Coolant and Re-Circulators
- Electrolytic Grease
- Safety Equipment
- Rapid Fire
- Palm Buttons
- Disconnect Switch
- Constant Current
- Bowl Feeders
- Low-Ride Casters

Some of the key features that set our machine ahead of the competition are:

- Robust frame design
- The lower jaws are copper and the upper jaws are knurled to grip tightly on the part
- Pressure is adjustable for both clamp and weld with timing for weld
- A removable rear cover permits access to the frame interior for inspection and maintenance
- Fully re-buildable
- Precision air system
- Exclusive use of copper core, water cooled transformers
- All copper is a minimum 99.9% pure, or RWMA class
- Designed and built in the USA

SERVICES AVAILABLE

- Engineering & Design
- Custom Tooling & Fixtures
- Custom Machining
- Complete Machine Refurbishing
- Transformer Repair
- Installation and Setup
- Field Service & Maintenance
- Education / Training
- Technical Support



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PROFESSIONALS

You get the individual attention you deserve at Spot Weld, Inc. You can rely on our courteous service. We know what we're talking about. If we don't have an answer, we'll say so, and then do our best to get it for you.

Call us with your questions about electrode tips, studs, holders or any kind of resistance spot weld equipment.

- Competitive Prices
- Large Stock
- High Quality
- Fast Delivery
- No Minimum Order

GAURANTEE

All our machines carry a like-new one-year parts and labor guarantee.

If you're not satisfied, we take it back!

Methods of Operation

- **Transformer**

The "heart of the welder" the Butt Rite transformer is built to RWMA automotive and appliance standards. Transformer secondaries are of cast copper with integral, non-corrosive water cooling pipes. Class "F" insulation is used throughout. The transformer is bonded and sealed with high temperature varnish baked on each coil. The resulting unit is a high power factor, high efficiency transformer with low leakage reactance. All transformers provided are water cooled.



- **Supply Voltage and Frequency**

The Press Butt type machine can be supplied for any one standard voltage supply of 220, 380, 440, or 550 volts, 50 or 60 cycles, single phase. Dual voltage, special voltages or frequencies are available as extras.



- **MFDC (Medium Frequency DC) - Optional**

Precisely controlled heating is required to achieve consistent, reliable welds. The medium frequency inverter achieves this level of control by precisely managing and monitoring weld parameters. The higher frequency permits much faster (1000 times per second) process control, which again results in better weld quality



- **Air Accessories**

Standard Equipment included air pressure regulator, gauge, lubricator, speed control valve, and solenoid valve for control of the cylinder.

- **Electrical Accessories**

Standard electrical accessories include a two stage foot switch. Dual palm buttons are available as options.

- **Controls**

Standard NEMA controls are mounted to the right side of the welder frame unless special tooling or customer preference precludes. JIB electrical specifications can be included as an extra.



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Single-Phase Resistance Welding (12" Throat Depth)

| Ferrous Alloy Gauge Thickness | Actual Thickness (in) | Low Carbon Steel | Galvanized Steel | Stainless Steel | Aluminum (1,2) |
|-------------------------------|-----------------------|----------------------------|------------------|-----------------|----------------|
| | | KVA (Transformer Required) | | | |
| 3 | 0.2391 | 100 | * | * | * |
| 4 | 0.2242 | 100 | * | * | * |
| 5 | 0.2092 | 50 | * | * | * |
| 6 | 0.1943 | 50 | * | * | * |
| 7 | 0.1793 | 50 | * | * | * |
| 8 | 0.1644 | 50 | * | * | * |
| 9 | 0.1495 | 50 | * | * | * |
| 10 | 0.1395 | 50 | * | * | * |
| 11 | 0.1196 | 30 | 75 | 150 | 150 |
| 12 | 0.1046 | 30 | 75 | 150 | 150 |
| 13 | 0.0897 | 30 | 50 | 100 | 150 |
| 14 | 0.0747 | 20 | 50 | 100 | 100 |
| 15 | 0.0673 | 20 | 50 | 100 | 100 |
| 16 | 0.0598 | 20 | 30 | 75 | 75 |
| 17 | 0.0538 | 20 | 30 | 75 | 75 |
| 18 | 0.0478 | 20 | 30 | 75 | 75 |
| 19 | 0.0418 | 20 | 30 | 75 | 75 |
| 20 | 0.0359 | 20 | 30 | 50 | 50 |
| 21 | 0.0329 | 10 | 30 | 50 | 50 |
| 22 | 0.0299 | 10 | 30 | 50 | 50 |
| 23 | 0.0269 | 10 | 30 | 50 | 50 |
| 24 | 0.0239 | 5 | 30 | 50 | 50 |
| 25 | 0.0209 | 5 | 30 | 30 | 50 |
| 26 | 0.0179 | 5 | 30 | 30 | 50 |
| 27 | 0.0164 | 5 | 30 | 30 | 30 |
| 28 | 0.0149 | 5 | 30 | 30 | 30 |
| 29 | 0.0135 | 5 | 30 | 30 | 30 |
| 30 | 0.0120 | 5 | 30 | 30 | 30 |

- * Not recommended. Inquire regarding three-phase.
- 1 Go by thickness on chart, not gauge.
- 2 Aluminum will spatter using single phase welding.

Note: The above represents a 12" throat depth for gauge sizes shown. For each additional 6" of Throat Depth, subtract 1 (one) less gauge size. (Ex. For 16 ga. material, with an increase from 12" to 24" throat depth, is 16 ga. minus 2 gauge sizes = 18 ga. material)

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| KVA 1-ph AC | 24" Throat Amps |
|-------------|-----------------|
| 5 | 0 - 6,500 |
| 10 | 6,500 - 9,500 |
| 20 | 9,500 - 12,500 |
| 30 | 12,500 - 16,500 |
| 50 | 16,500 - 21,000 |
| 75 | 21,000 - 25,000 |
| 100 | 25,000 - 30,000 |
| 150 | 30,000 - 36,000 |
| 200 | 36,000 - 41,500 |
| 250 | 41,500 - 46,000 |
| 300 | 46,000 - 50,500 |
| 350 | 50,500 - 54,500 |
| 400 | 54,500 - 58,000 |
| 450 | 58,000 - 61,500 |
| 500 | 61,500 - 64,500 |