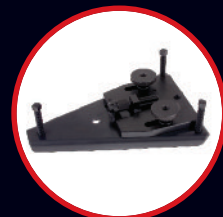


# Bortech 306 Series

## Automated BoreWelding System

### Options & Accessories

- ▶ **Mounting Accessories:** Adjustable Base, Mounting Rods, Mounting Rod Extenders and Radial Mounts
- ▶ **Torches:** Available for welding inside diameters from 0.5" to 54"
- ▶ **Torch Counterbalance Kit:** For horizontal use of Torches #6 and larger, Face, Trammel, & Extended Range Torch
- ▶ **Torch Extension Support Kit:** Steadyrest & Satellite Offset Head for extension length greater than 60"
- ▶ **Trammel Torches for OD Welding:** three models for diameters up to 14", 28" and 54"
- ▶ **Face Torch:** Allows spiral build-up of faces between 5" and 20"
- ▶ **Conical Bore Torch Attachment:** Allows weld build-up of valve seats and conical surfaces
- ▶ **Wire Straightener:** Used in conjunction with the Bortech's shop wire feeder to compensate for tight "cast" welding wire
- ▶ **Push/Pull Feed Systems:** 2 roll drive wire feed system used in conjunction with Bortech's feeder to enhance feeding of low column strength or hard to feed wires
- ▶ **Control Boxes:** Offered in 115 VAC 50/60 Hz or 230 VAC 50/60 Hz models



Adjustable Base



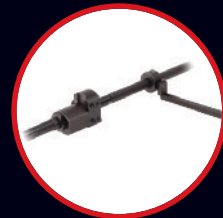
5" and 10" Radial Mounts



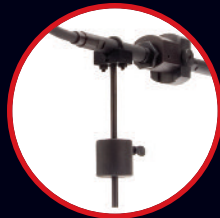
8" Radial Mount and Knuckle Assembly



Torches #000, #1A and #6 - #12



Torch Extension Support



Torch Counter Balance



Wire Straightener



Push/Pull Feed System



Bortech Control Box

# Bortech 306 Series

## Automated BoreWelding Systems



### World Leader in BoreWelding Technology

Unmatched knowledge and experience in the BoreWelding industry. Designing and building automated bore welding systems since 1989.



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 Keene, NH USA 03431

[www.bortech.com](http://www.bortech.com)

Visit our website for our Cost Saving Wizard, New Product notifications, product descriptions, technical data, articles and technical assistance concerning borewelding.

## The Bortech Advantage:

### Single Point of Control System

The Bortech Wire Feeder and Control Box provide a single point of control for all weld parameters and functions — travel, speed, amperage (wire feed speed), gas purge, voltage, contactor on/off, step size and weld direction. All adjustments are via intuitive, easy to use knobs and push-buttons.

### Designed for Critical Weld Applications

Bortech's 306 Series BoreWelders are specifically designed to weld with mild steel AND hard to feed, low column strength wires such as stainless steel, nickel and aluminum alloys, and flux core wires. Bortech's push-pull feed system and wire straightener make it possible to weld in the toughest of applications.

### Commitment to Satisfaction

Included with any BoreWelding purchase is a Two-Year Warranty together with one full day of training in your facility by factory-trained Bortech Representatives. Additional training is available Free-of-Charge at Bortech's facility.

### Product Support

Our experienced staff technicians can provide technical or application assistance by phone, e-mail, or scheduled appearances at your work site or in your facility. Bortech can also provide "proof of concept" testing to help determine your weld parameters.

## Features:

- ▶ **"STEP" Process out performs spiral welding:** provides complete coverage with infinitely adjustable step, allowing variable thickness of deposit from .040" to .220"
- ▶ **"Auto-Skip":** to set "weld-only" or "skip only" areas
- ▶ **"Pie Mode"** (bi-directional) and **"Carriage Return"** (singledirectional): to weld a portion of the bore, eliminating the need to machine out and re-weld out-of-round bores
- ▶ **Adjustable Step Point:** for infinite selection of STEP point within a bore, locating to a non-critical position
- ▶ **Auto Shut-Off:** provides simple end-of-travel adjustability
- ▶ **Remote Arc Interrupt Switch:** for manual skip welding
- ▶ **Off-Set Head:** provides radial adjustment of the torch, while maintaining the proper torch angle
- ▶ **Orientation Fitting and Nut:** replace consumables without re-positioning the BoreWelder
- ▶ **Versatility:** weld in any axis (vert., horz. or inverted)
- ▶ **Boring Bar Compatibility:** interface with all major brands of boring bars; one set-up allows alignment of both machines

# Bortech BoreWelding Systems

Bortech BoreWelders are used on all seven continents in these industries:  
Heavy Equipment Repair • Petroleum/Oil Drilling • Mining • Power Generation • Hydraulic/Fluid Power  
Transportation/Locomotion • Logging/Forestry

BoreWelder Premium Packages  
shown with major components for ID build up.



306-Z Package



306-P LS Package



Extended Range Torches



Trammel Torch  
(for OD welds)



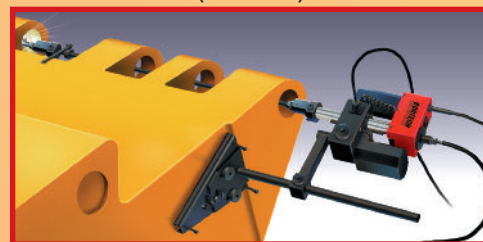
Conical Seat Torch



Face Torch



Compact Face Torch



Horizontal Welding with Torch Extension Support



Enclosed Wire Feeder



Shop-Style Wire Feeder

## Bortech BoreWelder Applications

- ▶ Bores, pivot points, buckets and hitches
- ▶ Valve and pump repairs
- ▶ Gears and gear boxes
- ▶ Motor housings and shafts
- ▶ Electric motor repair
- ▶ Train traction motors and couplings
- ▶ Blowout preventors
- ▶ Nozzles on pressure vessels & heat exchangers
- ▶ Compressors and turbines
- ▶ Shaft OD repair
- ▶ Tube sheet rebuild and repair
- ▶ Mud pumps
- ▶ Hydraulic cylinder eyes
- ▶ Presses
- ▶ Castings and injection molds
- ▶ Continuous miners and drag lines
- ▶ Rotary crushers
- ▶ Jaw crusher pitman arms
- ▶ Whole tree chippers



## Model 306 ZM, ZP AND LS:

- ▶ Dramatically reduces equipment downtime and repair costs
- ▶ Arc time increases 50% – 100% versus hand welding
- ▶ Can weld in bores impossible to complete by hand welding
- ▶ Can reach 5 ft. into a bore
- ▶ Can lay 5 lbs. of metal per hour
- ▶ Deposits one continuous, consistent, uniform layer of metal
- ▶ Machine cutting time reduced by up to 50%
- ▶ Consistent and uniform weld reduces cutting tool wear
- ▶ Portable, weighing from only 22 lbs., for in-shop or in-the-field use

## Specifications:

- ▶ **Weld Process:** MIG (GMAW) with short arc, pulse MIG or spray transfer modes
- ▶ **Axial Travel:**
  - ▶ Model ZM and ZP: 6" and 12" stroke
  - ▶ Model LS: 18", 24", 30" and 36" stroke
- ▶ **Step Range:** .040" - .220"  
(1 mm - 5.6 mm)
- ▶ **Wire Diameter Range:** .023" - .045"  
(.6 mm - 1.2 mm)
- ▶ **Amperage Rating:** 175 A Continuous
- ▶ **Torch Welding Diameter Ranges:**
  - ▶ ID Bores #000 through #12: .5" - 54"  
(12.7 mm - 1,370 mm)
  - ▶ OD Torches: .88"-54"  
(22 mm - 1,370 mm)
  - ▶ Face Torch: 1" - 20"  
(22 mm - 500 mm)
- ▶ **Torch Extensions:** 3", 6", 12" and 18"  
(76, 152, 305 and 457 mm)
- ▶ **Unsupported Torch Reach:** 60"  
(1.5 m)
- ▶ **Power Supply Requirements:** Recommended 300 A rating, Constant Voltage (CV) power source with remote voltage and contactor control capabilities
- ▶ **Control Box Power Requirements:** 115 VAC 50/60 Hz or 230 VAC 50/60 Hz
- ▶ **Wire Feeder:** 4 roll drive system, accepts standard 30 lb wire spool. Available in Shop Style and Enclosed Style

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