



A STEP AHEAD

Benefits of a Bortech “stepping” BoreWelder over a “spiral” (lead screw) machine

Feature	Application	Bortech’s Patented “Step” Technology	Spiral Machines
Bi-directional Rotation	Useful for multiple build-ups on vertical bores – each pass can alternate “uphill” and “downhill.”	Simple to do – push-buttons determine clockwise or counter-clockwise rotation.	Cannot do it – you must dismount and re-mount the machine on the opposite side for each pass.
Auto-Skipping	Useful when welding bores with keyways – you can skip the keyway and weld the rest of the bore.	Simple to do, plus the machine “rapid traverses” during the skipped section, reducing the total job time.	Can do it, but the machine rotates at the same speed even during the skipped section.
Pie Mode 	Useful for bi-directionally welding sections (less than 180?) of bores, such as out-of-round bores where you only want to build up a small section.	Simple to do – the machine will weld bi-directionally, only within the designated area (dramatically reducing the total job time).	Cannot do it.
Carriage Return for welding with wires that are difficult to run out of position 	Useful for welding with flux core wire where you always want to weld “vertical up.”	Simple to do – the machine will weld the section, then reverse direction and rapidly traverse to the starting point while stepping, and then resume welding (dramatically reducing the total job time).	Cannot do it.
Adjustable weld bead placement (bead to bead overlap)	?? For small deposits in small bores. ?? For large deposits (faster build-up with fewer passes). ?? For varying (large/small) build-up in all axes.	Infinitely adjustable between .040” and .220” (model 306) and .125” to .350” (model 1202).	Cannot do it – the overlap, wire sizes and amperage are fixed by the pitch of the screw.
Independent Control of Welding Parameters	Absolutely necessary when welding with exotic alloys such as Inconel and Stellite that have narrow operating parameters.	Infinite adjustment – varying the wire speed, rotation speed and step size allows precise control of bead placement and deposition, eliminating voids between beads and ensuring fusion to the base metal.	Limited Control – deposition can only be equal to the pitch of the screw (usually .125”) +/- 10%
Ability to step “backwards”	Allows complete welding coverage within bores that have lips at each end.	Simple -- step direction is set via push buttons. Weld under the near lip while stepping away, and weld under far lip while retracting.	Cannot do it.
Ability to retract (jog) while welding.	Added flexibility and control	Simple, via push button control.	Cannot do it.



