Spin Welder Model SVB031 & 051

Features
- 3 and 5 HP Direct Drive Models
- Computer–Controlled Motor
- Digital RPM Settings
- Dynamic Braking Option
- 13.7 x 16.5 inch (347 x 419mm) Fixture Tooling Platen
- Digital Timer Sets Weld and Hold Times
- Keypad Programmer with Backlit 2-Line LCD Display
- Industry–Standard Logic and Motor Controllers
- Pneumatic Thruster
- Adjustable Column Height
- Adaptable to Automation Applications
- Ultra–Rigid Square Support Column
- Factory Installed Lifting Eye
- Ergonomic Base with Status Indicators
- Dual Palm Switches with Abort complies with International Safety Standards

Spin Welding Process and Advantages
Spin Welders use the heat generated by rotational friction at the joint line to weld thermoplastic parts. The machine applies pressure axially while rotating one part against its stationary mate and the resulting friction generates heat that melts the parts together. Advantages of the spin welding process include —
- high–quality permanent joints
- hermetic seals
- ease of assembly
- immediate handling
- lower equipment costs
- energy efficient operation
- no ventilation required
- entrapment of other parts,
- far–field welding capability and
- no additional material requirements

Applications
Spin Welders have diverse applications:
- **Automotive** industry for parts such as filters, floats, check valves, pipes, fittings, fixtures and housings.
- **Medical** applications include blood–processing equipment, chemical pumps, fittings flow meters and IV drug delivery.
- **Consumer Product** applications include thermal mugs, insulating liners, storage containers, microwave ovenware and appliance components.
- **Industrial** applications include conveyor systems, gears, pulleys, couplings and motor housings.
Spin welders are also used in the **Toy Manufacturing** and **Sporting Goods** industry.
In the Spin Welding process, material composition affects friction which is the controlling factor in the joining operation. Surface contaminants may also affect the weld joint, but surface finish does not affect it. Dukane spin welders can join a variety of materials including semi-crystalline resins such as Polyethylene (PE), Polypropylene (PP), Polyamides (Nylon) and amorphous resins such as ABS, Polycarbonate (PC) and Polyvinyl Chloride (Rigid PVC). Call Dukane for a complete list of materials suitable for Spin Welding.

Advanced Joint Designs

Shear Joint
The walls of a Shear joint must be thick enough to provide sufficiently rigidity during spin welding.

Tongue & Groove with Flash Trap
The Tongue & Groove joint is self-aligning but is more expensive to tool. The trap hides excess flash.

Scarf Joint with Skirt
The Scarf joint combines the features of the a Shear joint with a Tongue & Groove to avoid entrapping air.

Solution Case Studies
Spin Welding is a viable alternative to using adhesives and fasteners. Only one part requires a circular joint surface for simple flange and butt joints. Spin Welding is also much more economical. Equipment cost is from one-half to one-third the cost of comparable thermal equipment and no additional materials are required.

Actual products manufactured with Dukane Spin Welders:
- Dish Washer Filter (Extruded PE and Molded PE)
- Snow Plow Marker Flag Holder (Far-Field Welds)
- Shower Drain Trap (Complex Geometry)
- Paint Bucket Can and Rim (Large Size and Economics)

Machine Capabilities
- Part Height: up to 20.94 inches (up to 26.94 with reconfiguration)
- Twelve-inch Maximum Part Diameter
- Rack–and–Pinion Height Adjustment Range – 3.75 to 20.94 inches (9.75 to 26.94 reconfigured)
- Three-inch Pneumatic Cylinder with Seven-inch Stroke
- 3HP (SVB031) and 5HP (SVB051) Models
- 350 – 3500 RPM (3HP) and 175 – 1750 RPM (5HP)
- Weld by Time and Weld by Absolute Distance Modes
- Top–of–Stroke Output for Automation Applications

Dimensions

Electrical and Air Requirements
240 Volts AC, 3 Phase, 60 Hz at 20 Amps
100 psi Maximum, Clean Dry Air

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Note: All specifications are subject to change without notice. Please consult Dukane for any updated information.