



FORWARD TECHNOLOGY

a Crest Group Company



(shown with optional features)

PSW

Pneumatic (Air) Spin Welder

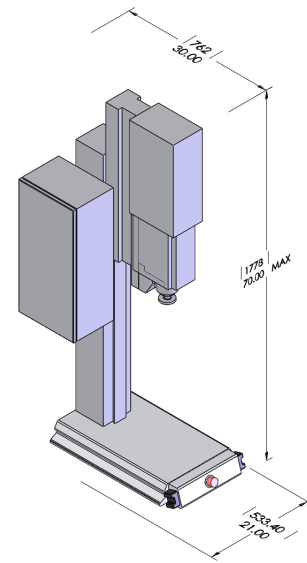
The PSW is a pneumatic motion controlled Inertial (Pneumatic Motor) Spin Welder designed for a wide variety of spin welding applications which do not require part to part orientation. This welder offers a simple approach to assembling parts with circular joints quickly and cost-effectively. Microprocessor control increases overall weld and production quality.

When compared to orientation (servo motor) models, inertial systems typically:

- Are available at a lower cost as simple pneumatic motors and basic control requirements allow lower equipment pricing.
- Generate higher operating speeds which often improve joint strength on lower durometer materials such as PE and PP.
- Allow all process energy (inertia) to be transferred to the joint area as part to part contact causes rotation to cease, similar to a brake.
- Demand lower power requirements as welding power is generated pneumatically as opposed to electrically.

Standard Features

- **Ultra-Rigid Rectangular Column** minimizes deflection of the system under even the highest pressures.
- **Modular Design** allows adaptability to a variety of production configurations. Controller height may be repositioned or removed from the press and relocated to a user preferred position.
- **Choice of either 0 - 4,800 RPM or 0 - 16,000 RPM Pneumatic Motor with Roller Bearing Design** allows a full range of speeds for flexibility to handle the widest variety of applications.
- **3.5" Color Touch-Screen User Interface** enables programming of weld parameters and several quality management features. Allows the following to be displayed:
 - RPM / Motor Off Height / Hold Time / Total Stroke
 - Resettable Parts Counter
 - Total Machine Cycle Counter
 - Diagnostic Display
- **Pre-Programmed Inputs** for Part Presence, Part Clamp Closed, External Start, and External Cycle Stop.
- **Pre-Programmed Outputs** for Part Clamp & Optional Motor Brake.
- **Built-In Tachometer** provides rotational speed input to microprocessor and increases consistency of the weld cycle. Also allows alarm monitoring of RPM during the welding cycle.
- **Precision Linear Stroke Encoder** allows the system to control multiple process steps including motor off height, stroke height to start actuator deceleration prior to part contact, and engagement of optional electromagnetic brake with an accuracy of +/- .005" (+/- .127mm). Also allows alarm monitoring of total stroke at the end of each welding cycle.
- **Welds by Delivery of 100% Stored Inertial or Optionally by Height (when equipped with Optional Electromagnetic Brake)** allowing user enhanced control for a wide range of applications.
- **RPM and Total Stroke Pass/Fail Windows** allow user to set min/max alarm limits for bad parts for quality control purposes.
- **Multi-Level Passcode Protection** limits parameter adjustment to qualified personnel only.
- **5 Weld Program/Setup Memory** allows storage for instant recall, minimizing tool change time.
- **7.9" (200mm) Vertical Actuator Stroke** permits loading/unloading with adequate clearance for most parts.
- **2.5" (63mm) Diameter Pneumatic Cylinder** allows more than ample force for most spin welding applications.
- **Adjustable Stroke Velocity** permits control of the vertical speed of the welding head, allowing more precise control for sensitive applications.
- **Ergonomically Located Dual Cycle Activation Switches** ensure operator safety from actuator descent.
- **Lockable Mechanical Stop** prevents shift/migration of stop setting in even the worst vibrating environments.



MECHANICAL SPECIFICATIONS

Weight:	~350 lbs (159kg)
Overall Dimensions:	30.0" D x 21.0" W x 70.0" H (762mm x 533mm x 1778mm)
Actuator Stroke:	7.9" (200mm)
Driver Hub to Base Height Adjustment Range:	0.0" – 29.0" (0mm – 737mm)
Throat Depth (Center of Driver to Column Front):	10.5" (267mm)

PERFORMANCE SPECIFICATIONS

Maximum Motor Speed:	4,800 RPM or 16,000 RPM
Maximum Driver Weight:	~7.5 lb (3.4kg)
Maximum Clamp Force:	390 lbs @ 80.0 PSI (1.7kN @ 5.5 Bar)
Warranty:	1 Year (Parts & Service)

OPERATING REQUIREMENTS

Electrical Requirements:	120VAC, 1PH, 15A, 60Hz
Pneumatic Requirements:	80 PSI, Dual 0.375" ID Supply Lines (5.5 Bar, Dual 10mm ID Supply Lines)

Optional Features

- Electromagnetic Brake
- Driver Inertia Flywheel (choice of 4 sizes)
- Larger 3.14" (80mm) Diameter Press Cylinder
- Special Energy Star Compliant Operating Voltages Transformer
- Larger 5.7" Color Screen User Interface
- Remote Access Internet Connection Router
- Expanded Input/Output Module
- Welded Tubular Steel Support Frame with Leveling Feet
- Light Screen Safety Protection with Electromagnetic Brake
- Pneumatic Powered Safety Door
- Leveling Casters
- LED Four Color Light Tower
- Tooling Sensor(s)
- Data Acquisition Program
- Compressed Air Reserve Tank



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