

# *Ultrasonic Spin Welding Systems*



## *Joining Of Thermoplastics*

POWERHOUSE OF ULTRASONIC TECHNOLOGY<sup>®</sup>



# Ultrasonic Spin Welding Systems

Spin Welding as the name implies is a friction welding technique to join thermoplastic parts. It is essential the parts to be joined or at least their joint areas, must be circular for this method of joining to be used. A shallow machining groove (tongue & groove) is desirable to index the two parts and to provide a uniform bearing surface.

With one part held stationary, either vertically or horizontally, in a special fixture, the other is rotated at 100-4000 rpm with enough pressure applied to keep the parts in contact with each other. The heat generated in friction is used to bring the surfaces to a sealing temperature.

When sufficient melt is obtained, the spinning stops and the pressure is increased to distribute the melt and also to squeeze out excessive melt, completing the general process.



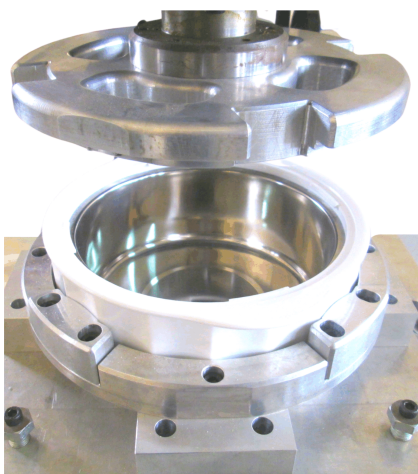
## Technical Specifications

Stroke Length	100 mm
Controller	PLC with suitable MMI
Time Setting	Three time setting for delay (T1), activation (T2) & Cooling from 0 to 9.99 sec
Power	1 KW/ 2.5 KW/ 4 KW/ 5KW
Speed of motor	100 to 4000 rpm
Pneumatic Press	Upto 2500 N
Weight	120 Kg

## Specifications

INPUT	
Power Supply	3 phase , 415 V
Pneumatic Power	3000 N
Maximum Power Required	3 kw
OUTPUT	
Servo Drive	3 / 4.5 (optional) kw
Servo Motor	Panasonic
Maximum RPM	4000
MECHANICAL DATA	
Max. part dia. To be weld	Ø 100 mm
Vertical Stroke	100 mm
Maximum Throat	250 mm
Tool Locking Collect	Ø 22 mm
Table Height	950 mm
Overall Dimensions	900 mm x 700 mm x 2000 mm ( approx.)

CONTROL	
Stroke	10 to 100 mm
Spinning RPM	500 to 2500
Spinning Time	0.01 to 9,99 sec.
Location Accuracy (Subject to molding locator accuracy)	± 0.1* degree
Part Locking	Through Fixture
PLC Control	Delta
Welding Mode	Hi-Tech MMI-Inbuilt
Welding Mode	Revolution/ Time mode
Welding Pressure Regulator	Festo, Precision regulator
Welding Depth Sensitivity	(Optional)
Pressure Switch	(Optional)
Safety Curtains	(Optional)
Canopy	(Optional)



## Applications

Any circular part made out of thermoplastic, specially for Nylon, PP & Polyethylene Group, Cream Jar, Hair Oil Bottle, Container Lid, Casserole, Filtration, Automotive Filter and many more.

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