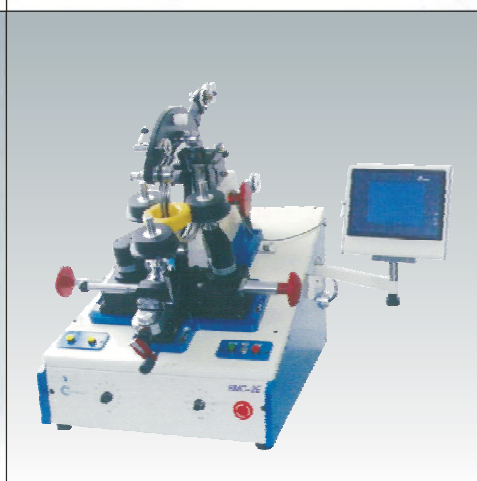
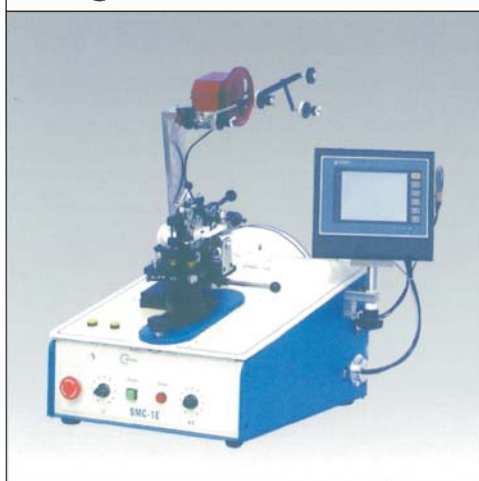




PRECISION COIL  
WINDING MACHINES



# Precision Coil Winding Machines







We at Jovil Universal are proud to present the following product catalog containing information on the most comprehensive line of toroidal coil winding equipment offered today.

Our years of dedication have produced the most advanced and user-friendly machines, capable of satisfying the simplest to the most difficult toroidal applications.

Jovil Universal's customer service is just as important to us as the quality of the machines themselves. Our skilled service and engineering staff will never delay technical support. After you have purchased your Jovil Universal winding machine, you will be sure to find our post-sales service second to none,

To be certain that the equipment will produce coils to your satisfaction, we offer free sample winding. Along with the wound samples you will receive a complete winding evaluation including production rates and equipment cost.

Thank you for the opportunity of servicing your toroidal production requirements. If there are any questions regarding the information contained in this catalog, please do not hesitate to contact us.



## Jovil Universal Zhongshan Ltd

Zhongshan City, Guangdong Province, China  
TEL: 86-760-85318918 FAX: 86-760-85315149

E-mail: [sales@joviluniversal.com](mailto:sales@joviluniversal.com)  
Website: [www.joviluniversal.com](http://www.joviluniversal.com)



# Fully Automatic Toroidal Winding Machine

## Model ATW-1

ATW-1 is proudly presented by Jovil Universal. The latest revelation in winding technology and much sort after by the coil winding industry with the birth of the hands free toroidal coil production system, dreams of the coil winding industry have virtualized.

ATW-1 being an impeccable state of the art system is capable of winding the most unimaginable miniature toroidal coils. This latest invention increases the production output coupled with unmatched quality standards. This technological phenomenon eliminates the need for operators, thus saving thousands of dollars in manpower hours.

ATW-1 has put an end to endless frustrations, in most miniature coil applications restricted to count error prone hand windings. A darling among stressed production managers, design engineers and cost concerned managers, the ATW-1 rebukes applications with labor intensity. In style it delivers coils with utmost distinctive quality, which is yearned for in the coil winding industry.

ATW-1 with its user-friendly PLC control system and ease of programming makes a university education requirement a thing of the past. With its multi functionality, the ATW-1 displays are featured in both English and Chinese.

ATW-1 is a miracle that must be seen to be believed.



- Direct winding onto cores
- Ability to control winding speed
- Separate turns and rotator control
- Dual language option in English and Chinese, for programming and display
- Display the real-time status in a touch screen HMI
- PLC control system can store up to 1000 single programs. Each program can be edited with 10 different winding steps.
- Built in fiber optic turns sensor; double display, adjustable easily, utmost accurate, stability and reliability.
- Programmable pitch control for wire spacing programmed by the PLC

## Specification / Capabilities

**Maximum Wire Size:** 0.5mm(24AWG)  
**Minimum Wire Size:** 0.06mm(#42AWG)  
**Maximum O.D:** 30mm(1.180" )  
**Minimum O.D:** 2.8mm(0.110" )  
**Minimum I.D:** 0.8mm(0.030" )  
**Maximum Height:** 10mm(0.394" )  
**Wire Spacing:** Programmable with Controller

**Segment Winding:** Programmable with controller  
**Progressive Winding:** Programmable with controller  
**Rotator Motor:** Hybrid Stepper Motor  
**Main Motor:** Servomotor  
**Power Requirement:** 220V, 50/60HZ  
**Winding Speed:** Variable to 480TPM  
**Carted Dimension:** 100X60X116cm 120KG





# Fully Automatic Double Plate Toroidal Winding Machine Model ATW-2

*Designed for high volume common mode choke applications*

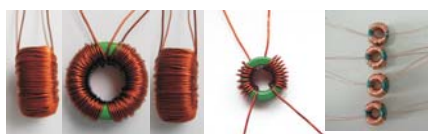
ATW-2 is proudly presented by Jovil Universal Zhongshan. The ATW-2 is the latest revelation in winding technology that is designed specially to wind common mode choke applications automatically. The ATW-2 is much sort after by the coil winding industry with the birth of the hands free toroidal common mode choke production system. Jovil Universal Zhongshan is the only toroidal winding equipment manufacturer in the world that is capable of this hands-free technology.

ATW-2 being an impeccable state of the art system is capable of winding the most unimaginable common mode choke toroidal coils. This latest invention increases the production output coupled with the unmatched quality standards. This technological phenomenon eliminates the need for operators, thus saving thousands of dollars in manpower hours and cutting the cycle time, down to fraction in comparison to semi-automatic machines.

ATW-2 has put an end to count error frustrations, experienced in almost all of the miniature common mode choke coil applications, wound manually. A darling among stressed-out production managers, design engineers and cost sensitive organizations, this wonder rebukes applications with labor intensity. In style, it delivers coils with the utmost distinctive quality, which is yearned for in the coil winding industry.

ATW-2 with its user-friendly PLC control system and ease of programming could easily be mastered by anyone. With its, multi functionality, the ATW-2 displays are featured in both English and Chinese.

ATW-2 is a miracle that must be seen to be believe.



- Both sections wound simultaneously
- Direct winding onto cores
- Ability to control winding speed
- Separate turns and rotator control
- Dual language option in English and Chinese, for programming and display
- Display the real-time status in a touch screen HMI
- PLC control system can store up to 1000 single programs. Each program can be edited with 10 different winding steps.
- Built in fiber optic turns sensor; double display, adjustable easily, utmost accurate, stability and reliability.
- Programmable pitch control for wire spacing programmed by the PLC
- Patent No: 201110203215.X
- Utility Model No: 201120256747.5

## Specification / Capabilities

**Maximum Wire Size:** 0.5mm(24AWG)

**Minimum Wire Size:** 0.06mm(#42AWG)

**Maximum O.D:** 30mm(1.180" )

**Minimum O.D:** 5mm

**Minimum I.D:** 2mm

**Maximum Height:** 10mm(0.394" )

**Wire Spacing:** Programmable with Controller

**Segment Winding:** Programmable with controller

**Progressive Winding:** Programmable with controller

**Rotator Motor:** Hybrid Stepper Motor

**Main Motor:** Servomotor

**Power Requirement:** 220V, 50/60HZ

**Winding Speed:** Variable to 480TPM

**Carted Dimension:** 100X60X116cm 150KG

# PLC Controlled Toroidal Winding Machine

## Model SMC-1E

Jovil Universal is proud to present our Precision Toroidal Winding Machine Model SMC-1E. This new model uses PLC Control System, which is versatile enough to store up to 240 programs. This precision winding machine encompasses a Human Machine Interface Control System which makes it a trouble free, production asset. Designed to be multi-tasked, this user friendly machine is able to display in multiple languages. Demanding least amount of production area, at an affordable price, it has all the functions that come as a standard. An envy of its competitors, this production asset, coupled with unmatched quality standards is priced affordably. With the touch screen display, it is easy to operate and anyone could master it with ease within minutes.



## Principle and Optional Features

- Separate speed controls for loading and winding
- Programmable stepper motor driven core rotation in either direction with minimum backlash
- Display language can be done in English and Chinese
- Display the status in a touch screen HMI
- PLC control system can store up to 100 single programs, 40 multiple programs, 100 tape programs
- Built in fiber optic turns sensor; double display, easy adjustable, utmost accurate, stable and reliable
- Quick change winding heads, core rotators
- Compatible to imported Jovil winding heads
- Apply 1/2HP 6000RPM DC brushless motor which supplies more torque and maintenance free.
- Automatic core index function
- Push button and footswitch controls
- Tape head control

## Specification / Capabilities

**Maximum Wire Size :** 1.4mm(#16AWG)

**Minimum Wire Size :** 0.05mm (#44AWG)

**Maximum O.D:** 101.6mm (4.00" )

**Minimum O.D:** 3.26mm (0.125" )

**Minimum I.D:** 1.00mm (0.040" )

**Maximum Height:** 50.8mm (2.00" )

**Winding Speed:** Variable to 1600TPM

**Wire spacing:** Programmable with controller

**Segment Winding:** Programmable with controller

**Progressive Winding:** Programmable with controller

**Deceleration:** Programmable with controller

**Acceleration:** Programmable with controller

**Motor:** Hybrid Stepper Motor

**Power Requirement:** 220V, 50/60Hz

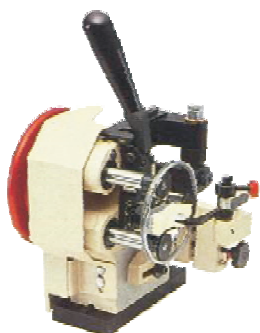
**Crated Dimension:** 94X94X107cm

**Crated Weight:** 45kg

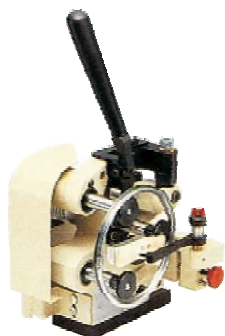


# Model SMC-1E Accessories

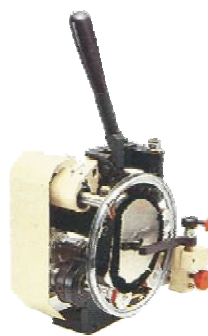
## Combination Slider/Round Belt Winding Heads



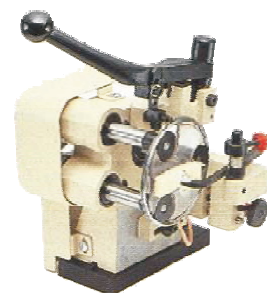
**4" QA**  
**Maximum Coil O.D.:** 1.5"  
 (38.0 mm)  
**Minimum Coil O.D.:** 0.375"  
 (10.0 mm)  
**Minimum Coil I.D.:** 0.150"  
 (3.8 mm)  
**Maximum Coil Height:** 1.0"  
 (25.4 mm)  
**Wire Size:** #18 - #42 AWG  
 (1.0 - 0.06 mm)



**6" QA**  
**Maximum Coil O.D.:** 2.5"  
 (63.5 mm)  
**Minimum Coil O.D.:** 0.625"  
 (15.8 mm)  
**Minimum Coil I.D.:** 0.375"  
 (10.0 mm)  
**Maximum Coil Height:** 1.5"  
 (38.0 mm)  
**Wire Size:** #18 - #42 AWG  
 (1.0 - 0.06 mm)



**7" QA (slider only)**  
**Maximum Coil O.D.:** 3.0"  
 (76.0 mm)  
**Minimum Coil O.D.:** 1.0"  
 (25.4 mm)  
**Minimum Coil I.D.:** 0.500"  
 (12.7 mm)  
**Maximum Coil Height:** 2.0"  
 (50.8 mm)  
**Wire Size:** #22 - #40 AWG  
 (0.6 - 0.08 mm)



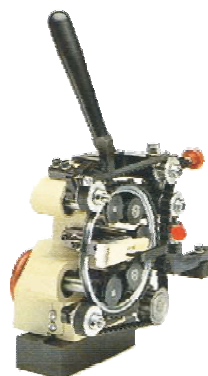
**4" Standard**  
**Maximum Coil O.D.:** 1.0"  
 (25.4 mm)  
**Minimum Coil O.D.:** 0.375"  
 (10.0 mm)  
**Minimum Coil I.D.:** 0.150"  
 (3.8 mm)  
**Maximum Coil height:** 0.500"  
 (12.7 mm)  
**Wire Size:** #22 - #42 AWG  
 (0.6 - 0.06 mm)

## Flat Belt Winding Heads

### New FB Belt Winding Heads From Jovil

Are you winding the majority of your toroidal cores with a pull winder or by hand? Wouldn't it be fantastic if up to 80% of that work could be transferred to an automatic machine? If so, then these new FB Belt Winding Heads from Jovil can help.

We all know that the most difficult job for an automatic toroidal winding machine has been the winding of heavy wire sizes through small core inside diameters. With these new heads, Jovil is capable of winding the heaviest wire sizes through the smallest core inside diameter.

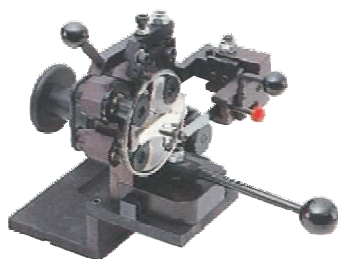


**6" F.B. Head**  
**Maximum Coil O.D.:** 2.5"  
 (63.5 mm)  
**Minimum Coil O.D.:** 0.625"  
 (15.8 mm)  
**Minimum Coil I.D.:** 0.375"  
 (10.0 mm)  
**Maximum Coil Height:** 1.5"  
 (38.0 mm)  
**Wire Size:** #16 - #26 AWG  
 (1.4 - 0.4 mm)

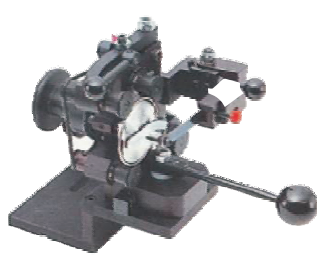


**4" F.B. Head**  
**Maximum Coil O.D.:** 1.5"  
 (38.0 mm)  
**Minimum Coil O.D.:** 0.375"  
 (10.0 mm)  
**Minimum Coil I.D.:** 0.250"  
 (6.0 mm)  
**Maximum Coil Height:** 1.0"  
 (25.4 mm)  
**Wire Size:** #16 - #30 AWG  
 (1.4 - 0.25 mm)

## Miniature Winding Heads



**S.M. Head (round belt type only)**  
**Maximum Coil O.D.:** 0.500"  
 (12.7 mm)  
**Minimum Coil O.D.:** 0.250"  
 (6.0 mm)  
**Minimum Coil I.D.:** 0.100"  
 (2.54 mm)  
**Maximum Coil Height:** 0.375"  
 (10.0 mm)  
**Wire Size:** #28 - #40 AWG  
 (0.3 - 0.08 mm)



**Minitor Head**  
**Maximum Coil O.D.:** 0.375"  
 (10.0 mm)  
**Minimum Coil O.D.:** 0.187"  
 (4.7 mm)  
**Minimum Coil I.D.:** 0.040"  
 (1.0 mm)  
**Maximum Coil Height:** 0.250"  
 (6.0 mm)  
**Wire Size:** #34 - #46 AWG  
 (0.16 - 0.05 mm)



**Minitor Preloader**  
 For the loading of minitor shuttles. Needed when using the minitor head.



## Principal Features

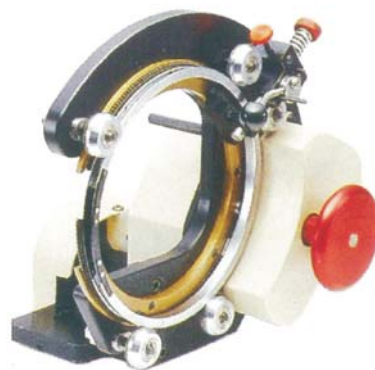


### 7" Tape Head

Toroidal Taping and Shielding Head fits models JV100BE and JV250.

**Maximum coil O.D.:** 4.0"  
(101.6 mm)  
**Minimum coil O.D.:** 0.750"  
(19.0 mm)  
**Minimum coil I.D.:** 0.625"  
(16.0 mm)  
**Maximum coil height:** 2.0"  
(50.8 mm)

- Interchangeable magazines with removable sector to accommodate tape widths of 1/4", 5/16", and 3/8" (6 mm, 8 mm, 10 mm)
- No need to change magazine drive pulleys when changing from one size magazine to another
- Counter controls measure of tape supply to magazine and number of wraps on core
- Automatic tape cut-off from spool supply
- Dereeler handles up to 12" diameter tape spools
- Core rotation speed control allows tape overlap on core to be adjusted while taping
- Footswitch controlled
- Will tape all non-adhesive materials (mylar, glass, copper shielding, etc.)



### 7" Gear Head

For perfect layer winding of wire onto the core.

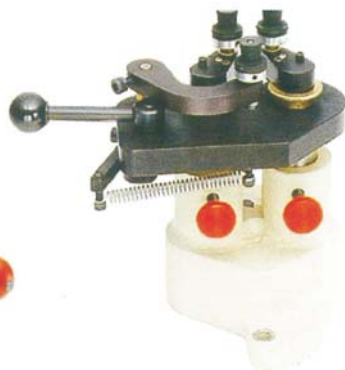
**Maximum Coil O.D.:** 4.0"  
(101.6 mm)  
**Minimum Coil O.D.:** 1.0"  
(25.4 mm)  
**Minimum Coil I.D.:** 0.500"  
(12.7 mm)  
**Maximum Coil Height:** 2.0"  
(50.8 mm)  
**Wire Size:** #16 - #34 AWG  
(1.4 - 0.16 mm)

## Core Rotators and Clamp



### HC Rotator

**Maximum Coil O.D.:** 4.0"  
(101.6 mm)  
**Minimum Coil O.D.:** 0.625"  
(15.8 mm)  
**Maximum Coil Height:** 2.0"  
(50.8 mm)



### MC Rotator

**Maximum Coil O.D.:** 1.0"  
(25.4 mm)  
**Minimum Coil O.D.:** 0.250"  
(6.0 mm)  
**Maximum Coil Height:** 0.500"  
(12.7 mm)



### Mini Core Rotator

Used with minitor winding head  
**Maximum Coil O.D.:** 0.500"  
(12.7 mm)  
**Minimum Coil O.D.:** 0.187"  
(4.7 mm)  
**Maximum Coil Height:** 0.250"  
(6.0 mm)



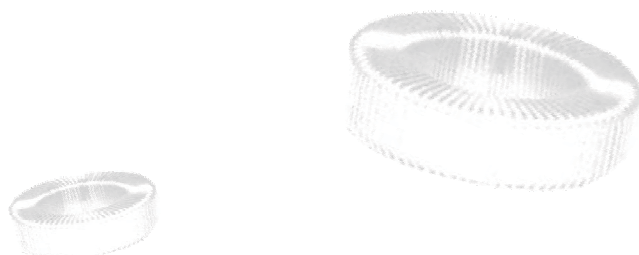
### Quick Release HC Rotator

To be used in conjunction with 7" gear head. The Quick Release HC is designed for tighter core clamping during precise layer winding.  
**Maximum Coil O.D.:** 4.0"  
(101.6 mm)  
**Minimum Coil O.D.:** 0.625"  
(15.8 mm)  
**Maximum Coil Height:** 2.0"  
(50.8 mm)



### SW Core Clamp

Used for the clamping of special toroids having obstructions located on the outercircumference. Interchangeable clamping jaws to satisfy all applications. (Only for use with the SMC-1.)





# PLC Controlled Toroidal Winding Machine

## Model SMC-2E

Jovil Universal is proud to present our Precision Toroidal Winding Machine Model SMC-2E. With the ability to accept over 10 types of winding heads, this toroidal winding machine offers the utmost in versatility. The SMC-2E is equipped with the state of the art PLC Control System, which is able to store up to 240 programs. This precision winding machine encompasses a Human Machine Interface Control System which makes it a trouble free, production asset. Designed to be multi-tasked, this user friendly machine is able to display in multiple languages. Demanding least amount of production area, at an affordable price, it has all the functions that come as a standard. All Jovil JV200 accessories and winding heads will fit readily to the SMC-2E base. With the touch screen display, it is easy to operate and anyone could master it with ease within minutes.



## Principle and Optional Features

- Separate speed controls for loading and winding
- Programmable stepper motor driven core rotation in either direction with minimum backlash
- Display language can be done in English and Chinese
- X-Y positioning for proper head to rotator alignment
- Display the status in a touch screen HMI
- PLC Control system can store up to 100 single programs, 40 multiple programs, 100 tape programs
- Built in fiber optic turns sensor; double display, easy adjustable, utmost accurate, stable and reliable
- Quick Change Winding heads, core rotators
- Apply 1 KW 2000RPM DC brushless motor which supplies more torque and maintenance free
- Automatic core index function
- Push button and footswitch controls
- Tape head control

## Specification/Capabilities

**Maximum Wire Size:** 3.25mm (#8AWG)

**Minimum Wire Size:** 0.1mm (#38AWG)

**Maximum Coil O.D:** 304.8mm (12.00" )

**Minimum Coil O.D:** 44mm (1.750" )

**Minimum Coil I.D:** 12.7mm (0.500" )

**Maximum Coil Height:** 88.9mm (3.500" )

**Winding Speeds:** Variable to 1500 turns per minute

**Wire Spacing:** Programmable with controller

**Segment Winding:** Programmable with Controller

**Progressive Winding:** Programmable with controller

**Deceleration:** Programmable with controller

**Acceleration:** Programmable with controller

**Shuttle Head Motor:** 1KW-2000RPM

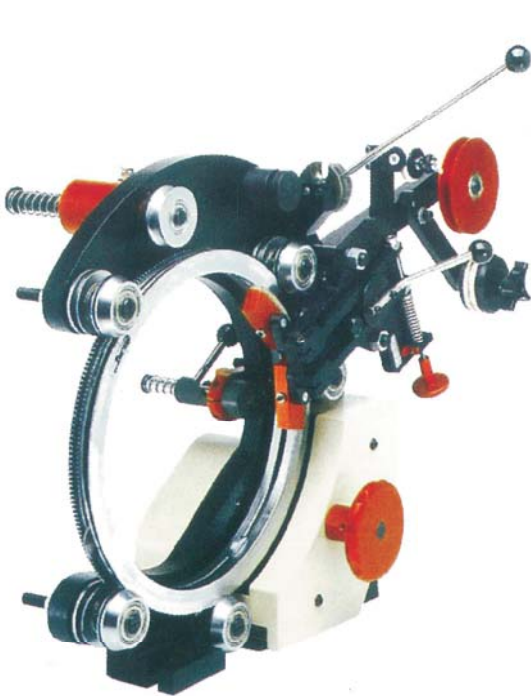
**Power Requirement:** 220V, 50-60Hz

**Crated Dimension:** 95x95x100cm

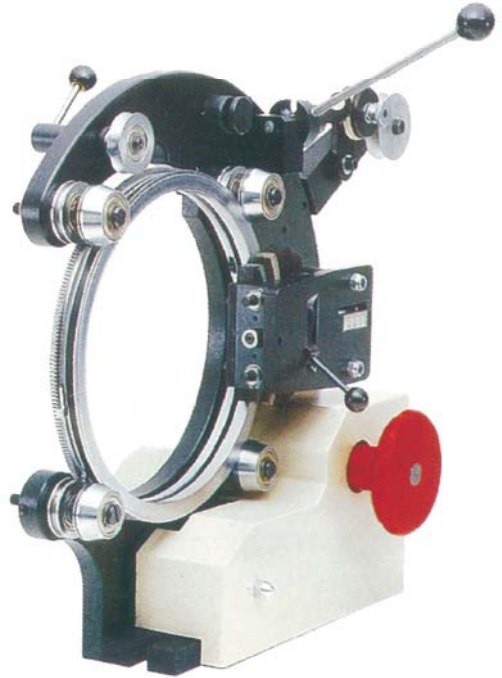
**Crated Weight:** 180 kgs

# Model SMC-2E Accessories

## Layer Winding Gear Heads



**12" Gear Head**  
**Maximum Coil O.D.:** 10.0" (254.0 mm)  
**Minimum Coil O.D.:** 2.5" (63.5 mm)  
**Minimum Coil I.D.:** 1.625" (41.2 mm)  
**Maximum Coil Height:** 3.5" (88.9 mm)  
**Wire Size:** #8 - #20 AWG (3.25 - 0.81 mm)

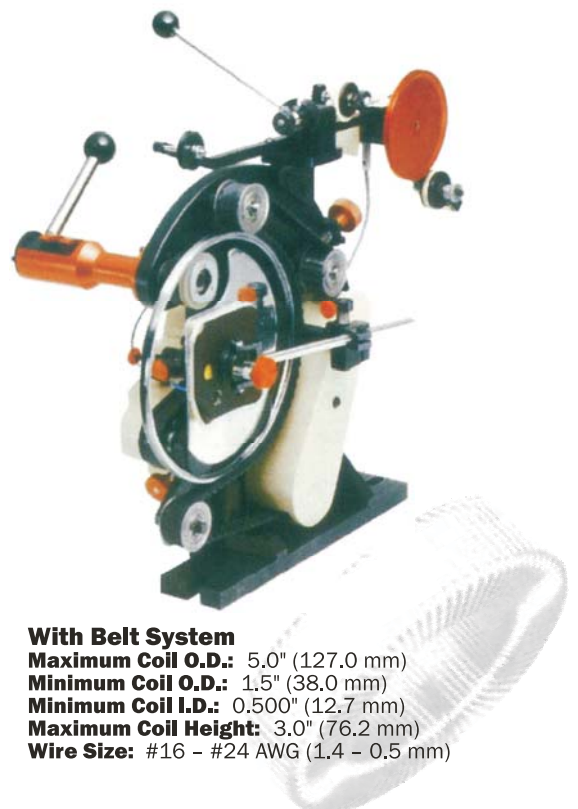


**9" Gear Head**  
**Maximum Coil O.D.:** 10.0" (254.0 mm)  
**Minimum Coil O.D.:** 1.5" (38.0 mm)  
**Minimum Coil I.D.:** 1.0" (25.4 mm)  
**Maximum Coil Height:** 3.5" (88.9 mm)  
**Wire Size:** #12 - #24 AWG (2.1 - 0.5 mm)

## 9" Combination Slider/Belt Head



**With Slider System**  
**Maximum Coil O.D.:** 5.0" (127.0 mm)  
**Minimum Coil O.D.:** 1.5" (38.0 mm)  
**Minimum Coil I.D.:** 0.625" (15.8 mm)  
**Maximum Coil Height:** 3.0" (76.2 mm)  
**Wire Size:** #22 - #38 AWG (0.64 - 0.1 mm)

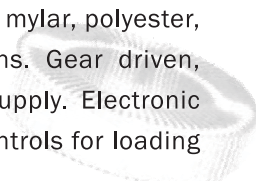


**With Belt System**  
**Maximum Coil O.D.:** 5.0" (127.0 mm)  
**Minimum Coil O.D.:** 1.5" (38.0 mm)  
**Minimum Coil I.D.:** 0.500" (12.7 mm)  
**Maximum Coil Height:** 3.0" (76.2 mm)  
**Wire Size:** #16 - #24 AWG (1.4 - 0.5 mm)



## Taping and Shielding Heads (SMC-2E)

These taping and shielding heads are used for applying a variety of non-adhesive tapes such as mylar, polyester, paper, varnished silk, fiber glass, cloth, copper shielding, etc. on toroidal coil applications. Gear driven, interchangeable magazines for various widths of tape. Auto matictape cut-off from spool supply. Electronic counter measures supply of tape to magazine and wraps of tape onto core. Separate speed controls for loading and wrapping. Fully adjustable tape overlap on core.



**14" Taping and Shielding Head**  
**Maximum Coil O.D.:** 10.0" (254.0 mm)  
**Minimum Coil O.D.:** 3.0" (76.2 mm)  
**Minimum Coil I.D.:** 2.0" (50.8 mm)  
**Maximum Coil Height:** 3.5" (88.9 mm)  
**Tape Widths:** 5/16", 3/8", 1/2", 5/8", 3/4", 1" (8 mm, 10 mm, 12 mm, 15 mm, 19 mm, 25 mm)



**9" Taping and Shielding Head**  
**Maximum Coil O.D.:** 10.0" (254.0 mm)  
**Minimum Coil O.D.:** 2.0" (50.8 mm)  
**Minimum Coil I.D.:** 1.0" (25.4 mm)  
**Maximum Coil Height:** 3.0" (76.2 mm)  
**Tape Widths:** 5/16", 3/8", 1/2", 5/8", 3/4", 1" (8 mm, 10 mm, 12 mm, 15 mm, 19 mm, 25 mm)



**9" SI Taping and Shielding Head**  
**Maximum Coil O.D.:** 10.0" (254.0 mm)  
**Minimum Coil O.D.:** 1.5" (38.0 mm)  
**Minimum Coil I.D.:** 0.650" (16.50 mm)  
**Maximum Coil Height:** 3.0" (76.2 mm)  
**Tape Widths:** 1/4", 5/16", 3/8", 1/2" (6 mm, 8 mm, 10 mm, 12 mm)

## Core Rotator Assemblies (SMC-2E)



**Large Core Rotator**  
**Maximum Core O.D.:** 10.0" (254.0 mm) JV200  
**Minimum Core O.D.:** 2.0" (50.8 mm) JV200  
**Maximum Core O.D.:** 12.0" (304.8 mm) SMC-2E  
**Minimum Core O.D.:** 1.75" (44.5 mm) SMC-2E  
**Maximum Core Height:** 3.5" (88.9 mm)



**Small Core Rotator**  
**Maximum Core O.D.:** 4.5" (114.3 mm)  
**Minimum Core O.D.:** 1.5" (38.0 mm)  
**Maximum Core Height:** 2.5" (63.5 mm)

# Model SMC-3

## Microprocessor Controlled Toroidal Winding Machine

with Windows Software



Full programmability of all winding functions now available in a floor stand machine. Forget about lengthy set-up times. The famous SMC control now allows all winding functions to be programmed for ease of repeatable recall at any time. The SMC-3 is a medium sized floor stand machine for the winding of medium to large size toroidal coils. The ability to accept 4 types of winding heads along with 3 sizes of taping heads makes this machine the most versatile in its class. Core sizes from 3.0 inch (76.2mm) to 17.0 inch (431.3mm). Wire sizes from #38 awg (0.1mm) to #7 awg (3.66mm).

### Principal and Optional Features

- Separate speed controls for loading and winding
- Programmable stepper motor driven core rotation in either direction with minimum backlash
- Programmable wire spacing, from coarse to fine micro-step resolution
- Electronic linear pick-up for loading (feet or meters)
- Tape head controls
- Solid-state microprocessor count controller - total of 99 programmable presets - LED readout - built-in fiber optic turns sensor-program storage- production batch counter - utmost accuracy, stability and reliability
- RS-232 with interface software
- Quick change winding and taping heads
- Automatic core index function
- Push button, on-off footswitch or variable footpedal operation
- Optional SMC programming software to pre-calculate and download all winding parameters from your PC to the machine

### Specification/Capabilities

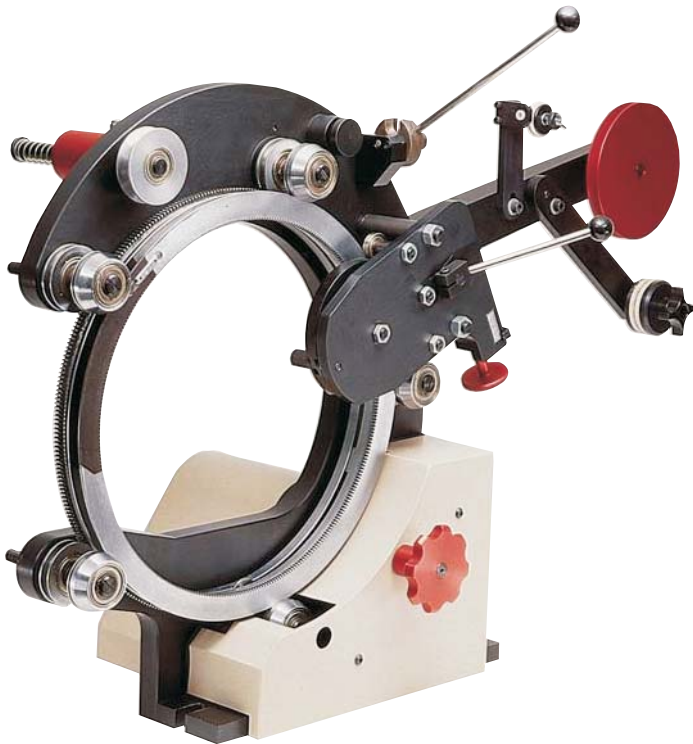
**Maximum Wire Size:**#7 AWG (3.66 mm)  
**Minimum Wire Size:**#38 AWG (0.1 mm)  
**Maximum Coil O.D.:**17.0" (431.3 mm)  
**Minimum Coil O.D.:**3.0" (76.2 mm)  
**Minimum Coil I.D.:**0.5" (12.7 mm)  
**Maximum Coil Height:**7.0" (177.6 mm)  
**Maximum Coil Weight:**80 lbd (36.4 kg)  
**Winding Speeds:**Variable depending on head  
**Wire Spacing:**Programmable variable  
**Segment Winding:**Programmable

**Progressive Winding:**Programmable with controller  
**Deceleration Control:**Programmable with controller  
**Acceleration Control:**Programmable with controller  
**Shuttle Head Motor:** 1 HP ?1750 RPM-DC  
**Core Rotation Motor:**Hybrid step motor  
**Power Requirement:** 120 V or 220 V, 50-60 cycles  
**Crated Dimensions:** 48" x 48" x 60"  
(121.4 x 121.4 x 151.8 cm)  
**Crated Weight:**750 lbs (340 kg)



# Model SMC-3 and JV300 Accessories

## Layer Winding Gear Heads



**16" Gear Head**  
**Maximum Coil O.D.:** 17.0" (431.3 mm)  
**Minimum Coil O.D.:** 3.0" (76.1 mm)  
**Minimum Coil I.D.:** 1.750" (44.5 mm)  
**Maximum Coil Height:** 7.0" (177.6 mm)  
**Wire Size:** #7 ?#20 AWG (3.66 ?0.81 mm)



**12" Gear Head**  
**Maximum Coil O.D.:** 15.0" (381.0 mm)  
**Minimum Coil O.D.:** 3.0" (76.1 mm)  
**Minimum Coil I.D.:** 1.625" (41.2 mm)  
**Maximum Coil Height:** 6.0" (152.4 mm)  
**Wire Size:** #8 ?#20 AWG (3.25 ?0.81 mm)



**9" Gear Head**  
**Maximum Coil O.D.:** 10.0" (254.0 mm)  
**Minimum Coil O.D.:** 3.0" (76.1 mm)  
**Minimum Coil I.D.:** 1.0" (25.4 mm)  
**Maximum Coil Height:** 3.5" (88.9 mm)  
**Wire Size:** #12 ?#24 AWG (2.1 ?0.5 mm)



## Taping and Shielding Heads (SMC-3 and JV300)

These taping and shielding heads are used for applying a variety of non-adhesive tapes such as mylar, polyester, paper, varnished silk, fiber glass, cloth, copper shielding, etc. on toroidal coil applications. Gear driven, interchangeable magazines for various widths of tape. Automatic tape cut-off from spool supply. Electronic counter measures supply of tape to magazine and wraps of tape onto core. Separate speed controls for loading and wrapping. Fully adjustable tape overlap on core.

### Open Gear Design



**14" Taping and Shielding Head**  
**Maximum Coil O.D.:**17.0" (431.3 mm)  
**Minimum Coil O.D.:**3.0" (76.2 mm)  
**Minimum Coil I.D.:**2.0" (50.8 mm)  
**Maximum Coil Height:**6.0" (152.4 mm)  
**Tape Widths:** 5/16", 3/8", 1/2", 5/8", 3/4", 1" (8 mm, 10 mm, 12 mm, 15 mm, 19 mm, 25 mm)



**9" Taping and Shielding Head**  
**Maximum Coil O.D.:**10.0" (254.0 mm)  
**Minimum Coil O.D.:**2.5" (63.5 mm)  
**Minimum Coil I.D.:**1.0" (25.4 mm)  
**Maximum Coil Height:**3.0" (76.2 mm)  
**Tape Widths:** 5/16", 3/8", 1/2", 5/8", 3/4", 1" (8 mm, 10 mm, 12 mm, 15 mm, 19 mm, 25 mm)



**9" SI Taping and Shielding Head**  
**Maximum Coil O.D.:**10.0" (254.0 mm)  
**Minimum Coil O.D.:**2.5" (63.5 mm)  
**Minimum Coil I.D.:**0.650" (16.50 mm)  
**Maximum Coil Height:**3.0" (76.2 mm)  
**Tape Widths:** 1/4", 5/16", 3/8", 1/2" (6 mm, 8 mm, 10 mm, 12 mm)

### Solid Gear Design



**9" SG Taping and Shielding Head**  
**Maximum Coil O.D.:**10.0" (254.0 mm)  
**Minimum Coil O.D.:**2.0" (50.8 mm)  
**Minimum Coil I.D.:**1.375" (34.9 mm)  
**Maximum Coil Height:**3.0" (76.2 mm)  
**Tape Widths:** 5/16", 3/8", 1/2", 5/8", 3/4", 1" (8 mm, 10 mm, 12 mm, 15 mm, 19 mm, 25 mm)



**12" SG Taping and Shielding Head**  
**Maximum Coil O.D.:**10.0" (254.0 mm)  
**Minimum Coil O.D.:**3.0" (76.2 mm)  
**Minimum Coil I.D.:**1.5" (38.1 mm)  
**Maximum Coil Height:**4.0" (101.6 mm)  
**Tape Widths:** 5/16", 3/8", 1/2", 5/8", 3/4", 1" (8 mm, 10 mm, 12 mm, 15 mm, 19 mm, 25 mm)



**16" SG Taping and Shielding Head**  
**Maximum Coil O.D.:** 17.0" (431.3 mm)  
**Minimum Coil O.D.:**3.0" (76.2 mm)  
**Minimum Coil I.D.:**2.0" (50.8 mm)  
**Maximum Coil Height:**6.0" (152.4 mm)  
**Tape Widths:** 1/4", 5/16", 3/8", 1/2" (6 mm, 8 mm, 10 mm, 12 mm)

# Microprocessor Controlled Model SMC-4 Toroidal Winding Machine with Windows Software



Full programmability of all winding functions now available in a heavy duty floor stand machine. Forget about lengthy set-up times. The famous SMC control now allows all winding functions to be programmed for ease of repeatable recall at any time. The SMC-4 is a heavy sized floor stand machine for the winding of large size toroidal coils and is unmatched by any competitor for general winding and tapping applications. The ability to accept 4 types of winding heads along with 3 sizes of tapping heads makes this machine the most versatile in its class. Core sizes from 3.5 inch (89.0mm) to 46.0 inch (1169 mm). Wire sizes from #38 awg (0.1mm) to #4 awg (5.4 mm).

## Principal and Optional Features

- Separate speed controls for loading and winding
- Programmable servo motor driven core rotation in either direction with minimum backlash
- Programmable wire spacing, from coarse to fine micro-step resolution
- Electronic linear pick-up for loading (feet or meters)
- Tape head controls
- Solid-state microprocessor count controller with a total of 99 programmable presets/LED readout/built-in fiber optic turns sensor/program storage/production batch counter and the utmost accuracy, stability and reliability
- RS-232 with interface software
- Quick change winding and taping heads
- Automatic core index function
- Push button, on-off footswitch or variable speed footpedal operation
- Optional SMC programming software to pre-calculate and download all winding parameters from your PC to the machine

## Specifications/Capabilities

- Maximum Wire Size:**#4 AWG (5.4 mm)
- Minimum Wire Size:**#38 AWG (0.1 mm)
- Maximum Coil O.D.:**46.0" (1169 mm)
- Minimum Coil O.D.:**3.5" (89 mm)
- Minimum Coil I.D.:**0.5" (12.7 mm)
- Maximum Coil Height:**12.0" (305 mm)
- Maximum Coil Weight:**500 lbd (227 kg)
- Winding Speeds:**Variable depending on head
- Wire Spacing:**Programmable variable
- Segment Winding:**Programmable

- Progressive Winding:**Programmable with controller
- Deceleration Control:**Programmable with controller
- Acceleration Control:**Programmable with controller
- Shuttle Head Motor:** 3 HP DC
- Core Rotation Motor:** Servo motor
- Power Requirement:**220 V AC single phase, 50 - 60 cycles
- Crated Dimensions:** 48" x 60" x 84" (121.4 x 153 x 213 cm)
- Crated Weight:** 1095 lbs (497 kg)



# Model SMC-4 Offers These Outstanding Features:

Interchangeable heads - 3 series  
(U-winding, TP-taping, S-fine wire)

#14U	14" diameter geared layer winding head
#14TP	14" diameter taping head
#16S	16" diameter slider-type random winding head
#18U	18" diameter geared layer winding head
#18TP	18" diameter taping head
#20U	20" diameter geared layer winding head
#20TP	20" diameter taping head

Choice of 3 different roller tables  
Separate potentiometer controlled settings for wind and load speeds

0 - 360 continuous winding in either direction  
0 - 270 segmental winding in either direction; lateral traverse winding from 0.250" (6.35 mm) to 8.50" (216 mm)  
Automatic 360 reversal of winding direction using progressive wind feature  
Servo motor controlled core feed mechanism infinitely variable with potentiometer and manual or automatic reversal of core rotation with push button controlled feature to rotate the core when not winding  
Proximity sensor counting mechanism  
Electronic meter counter assembly  
Footswitch with safety cover  
Motor controls with solid state circuitry  
Multifilar winding applications  
Winding and taping functions

## Model SMC-4 Winding Accessories

### Layer Winding Heads



#### 20U Layer Head

**Maximum Coil O.D.:** 6.0" (1169 mm)  
**Minimum Coil O.D.:** 6.00" (152.4 mm)  
**Minimum Coil I.D.:** 2.562" (65.0 mm)  
**Maximum Coil Ht.:** 12.0" (304.8 mm)  
**Wire Size:** #4 - #14 AWG  
(5.4 mm - 1.63 mm)



#### 18U Standard Layer Head

**Maximum Coil O.D.:** 30.0" (762 mm)  
**Minimum Coil O.D.:** 3.50" (89.0 mm)  
**Minimum Coil I.D.:** 2.00" (50.8 mm)  
**Maximum Coil Ht.:** 8.00" (203.2 mm)  
**Wire Size:** #5 - #20 AWG  
(4.73 mm - 0.81 mm)



#### 14U Standard Layer Head

**Maximum Coil O.D.:** 20.0" (508 mm)  
**Minimum Coil O.D.:** 3.50" (89.0 mm)  
**Minimum Coil I.D.:** 1.562" (39.6 mm)  
**Maximum Coil Ht.:** 6.00" (152.4 mm)  
**Wire Size:** #7 - #20 AWG  
(3.66 mm - 0.81 mm)

#### 18U Light Layer Head

**Maximum Coil O.D.:** 30.0" (762 mm)  
**Minimum Coil O.D.:** 3.50" (89.0 mm)  
**Minimum Coil I.D.:** 1.625" (41.2 mm)  
**Maximum Coil Ht.:** 8.00" (203.2 mm)  
**Wire Size:** #10 - #28 AWG  
(2.58 mm - 0.32 mm)

#### 14U Light Layer Head

**Maximum Coil O.D.:** 20.0" (508 mm)  
**Minimum Coil O.D.:** 3.50" (89.0 mm)  
**Minimum Coil I.D.:** 1.25" (31.7 mm)  
**Maximum Coil Ht.:** 6.00" (152.4 mm)  
**Wire Size:** #16 - #28 AWG  
(1.29 mm - 0.32 mm)



# Model SMC-4 Winding Accessories

## Slider Head, Core Clamp, Roller Tables and Tape Heads

### Tape Heads



#### 20 TP Tape Head

**Maximum Coil Ht:** 12.0" (304.8 mm)  
**Tape Widths:** 1.00" and 1.50"  
 (25 mm and 38 mm)



#### 18 TP Tape Head

**Maximum Coil Ht:** 8.00" (203.2 mm)  
**Tape Widths:** 0.50", 0.75" and 1.00"  
 (12 mm, 19 mm and 25 mm)



#### 14 TP Tape Head

**Maximum Coil Ht:** 6.00" (152.4 mm)  
**Tape Widths:** 0.50", 0.75" and 1.00"  
 (12 mm, 19 mm and 38 mm)

- ?Will tape most non-adhesive materials (Mylar, Kapton, Cotton, etc.)
- ?Interchangeable magazines for different tape widths
- ?Dereeler holds 14" (355.6 mm) diameter spools with 3" (76.2 mm) hole
- ?Programmed tape measure with automatic cut-off

### 16S Slider Head



**Maximum Coil O.D.:** 11.0" (279.4 mm)  
**Minimum Coil O.D.:** 3.50" (89.0 mm)  
**Minimum Coil I.D.:** 0.50" (12.7 mm)  
**Maximum Coil Ht.:** 6.00" (152.4 mm)  
**Wire Size:** #20 - #40 AWG  
 (0.812 mm - 0.073 mm)

### Core Clamp



Used for the clamping of special toroids having obstructions located on the outer circumference. Interchangeable clamping jaws to satisfy all applications.

### Roller Tables

#### #40 Roller Table

**Minimum Core O.D.:** 10.0" (254 mm)  
**Maximum Core O.D.:** 46.0" (1169 mm)  
**Maximum Core Ht.:** 12.0" (305 mm)  
**Maximum Core Wt:** 500 lbs (227 kg)

#### #30 Roller Table

**Minimum Core O.D.:** 4.50" (114 mm)  
**Maximum Core O.D.:** 30.0" (762 mm)  
**Maximum Core Ht.:** 12.0" (305 mm)  
**Maximum Core Wt:** 350 lbs (158 kg)

#### #20 Roller Table

**Minimum Core O.D.:** 3.50" (89.0 mm)  
**Maximum Core O.D.:** 20.0" (508 mm)  
**Maximum Core Ht.:** 8.00" (203 mm)  
**Maximum Core Wt:** 200 lbs (90 kg)

# Pull Type Toroidal Winding Machine

## Model PTW-1

Jovil Universal is proud to present the model PTW-1 Pull Type Toroidal Winding Machine. This machine is equipped with a pneumatic cylinder to pull the wire. The core is rotated automatically with the 4 rubber rollers and there is a foot switch to control the cycles.



## Features

- Professional hook design which does not damage the wire insulator.
- Using pneumatic cylinder to pull firmly.
- Adjustable winding speed.
- Automatic counter for the No.of turns
- Bright LED display
- Precise potentiometer to adjust the Pitch easily
- Pitch can be adjusted when winding.
- Core is being rotated by 4 rubber rollers.
- Rotation of the core is more precise
- Machine is operated by footpedal which is easy to use
- Photo-sensor safety light Curtain
- Choices of 4 hooks

## Specification

- Minimum O.D: 15mm
- Maximum O.D: 60mm
- Minimum I.D: 5mm
- Minimum Wire Size: 0.3mm
- Maximum Wire Size: 2.0mm
- Maximum Core Height: 50mm

## Capabilities

### NEEDLE

3.2 mm  
4.8 mm  
6.4 mm  
9.5 mm

### PART NO.

75B.0021P (A)  
75B.0021P (B)  
75B.0021P (C)  
75B.0021P (D)

### MAXIMUM WIRE SIZE

0.8 mm  
1.2 mm  
1.7 mm  
2.0 mm







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