AUTOMATIC WINDING MACHINE
-- For Metallized Film Capacitor--
Model: URM-30 / URM-50 / URM-60 Series

For Metallized Film Capacitor (Single Pressure Roller)

For Metallized Film Capacitor (Dual Side Film Winding)

For Metallized Film Capacitor (Dual Pressure Roller)

For Metallized Film Capacitor (With Cover Film)
Two or three mandrels rotating to assure short cycle time.
- Tension controlled by DC servomotor; main winding by AC servomotor.
- The outside seal uses the digit display PID control (PID control ±1%). The products have good appearance.
- Process control system by IPC 586 computer, with hard disk to memorize 600 sets of specification, easy to change production specification.
- It has 3.5" disk driver, which is able to correct process and backup them.
- Automatic indication function for self-examining breakdown. When machine breakdown, it can self-testing to find reason and show the situation on the screen. It’s able to indicate the inspection and repairable methods.
- Speed up/down rate setting functions, excellent for high current, high voltage and interference suppressors class X2 capacitor.
- With electronic burn off control system, speed adjustable and suitable for Al. or Zinc/Al. metallized layer, the de-metallizing effect is very good.
- Main winding up to 9000 RPM.

### Feature

<table>
<thead>
<tr>
<th>Specification</th>
<th>URM-30 Series</th>
<th>URM-50 Series</th>
<th>URM-60 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metal Film</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mandrel</td>
<td>φ1.5, 2, 2.5, 3 mm</td>
<td>φ2.5, 3, 4, 5, 6 mm</td>
<td>φ2.5, 3, 4, 5, 6 mm</td>
</tr>
<tr>
<td>ID</td>
<td>φ75 mm</td>
<td>φ75 mm</td>
<td>φ75 mm</td>
</tr>
<tr>
<td>OD</td>
<td>φ180 mm</td>
<td>φ180 mm</td>
<td>φ180 mm</td>
</tr>
<tr>
<td>Width</td>
<td>5~15 mm</td>
<td>8~22 mm</td>
<td>8~27 mm</td>
</tr>
<tr>
<td>Dual Winding</td>
<td>15~27 mm</td>
<td>22~46 mm</td>
<td>27~50 mm</td>
</tr>
<tr>
<td>Single Winding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective Mandrel</td>
<td>35 mm</td>
<td>50 mm</td>
<td>60 mm</td>
</tr>
<tr>
<td>Element Size (OD)</td>
<td>Max. φ18 mm</td>
<td>Max. φ28 mm</td>
<td>Max. φ28 mm</td>
</tr>
<tr>
<td>Capacitance Control</td>
<td>Turns Controlled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory Quantity</td>
<td>600 sets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sequential Control</td>
<td>I.P.C. Controlled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tension Control</td>
<td>DC Servo Motor Controlled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seal Winding</td>
<td>Digit Display, PID Controlled ±1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Source / Air</td>
<td>AC 220V 1φ 50/60Hz 1.5KVA/ 5 kg/cm²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winding Speed</td>
<td>Max.9000 R.P.M.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine Size</td>
<td>W1000mm × D950mm × H1780mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine Weight</td>
<td>About 400KGS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Automatic Winding Machine**  
**Model:** URM-30 / URM-50 / URM-60 Series

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**Purchase Guide**

**Optional Function**

<table>
<thead>
<tr>
<th>With Cover Film</th>
<th>When the thickness of MPE film less than 3um or MPP film less than 5um, to use the machine with cover film to avoid the main winding element burnt out. For the high capacitance and low voltage specification to use the machine with cover film to save the film cost.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Side Winding</td>
<td>The machine suits the double side metallized film. (For suitable structure, please refer to the appendix description.)</td>
</tr>
<tr>
<td>Dual Pressure Roller</td>
<td>The machine equipped with dual pressure roller of air pressure system. Adopting display screen of touch control, easy operation. The winding products have compact body, and using this winding capacitor could reduce noise.</td>
</tr>
</tbody>
</table>

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**Machine Type** | **Machine Model**
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Single Pressure Roller | URM-H30-9, URM-H50-9, URM-H60-9
Single Pressure Roller & With Cover Film Type | URM-H30-9-C, URM-H50-9-C, URM-H60-9-C
Single Pressure Roller & With Dual Side Winding Type | URM-H30-9-D, URM-H50-9-D, URM-H60-9-D
Dual Pressure Roller | URM-30-DP, URM-50-DP, URM-60-DP
Dual Pressure Roller & With Cover Film Type | URM-30-DP-C, URM-50-DP-C, URM-60-DP-C
Dual Pressure Roller & With Dual Side Winding Type | URM-30-DP-D, URM-50-DP-D, URM-60-DP-D

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**Screen Display**

- **(F1) file:** 1  
- **Cap:** 0.47 uf  
- **Mate:** MPE 14.0x4.8x1.5  
- **Burn voltage short:** |  
- **I. temperature alarm:** |  
- **O. temperature alarm:** |  
- **Tension 1 strip:**  
- **Tension 2 strip:**  
- **Tension 3 strip:**  
- **Tension 4 strip:**  
- **In. Burn strip:**  
- **Out. Burn strip:**  
- **Com. Burn strip:**  
- **Produce over Preset:**  
- **Capacity not at range:**  
- **Bad:** |  
- **Total:** |  
- **Good Rate:** |  
- **Hour:** 760  
- **PCS:** 9.45  
- **Turn:** |  
- **Outside Seal:**  
- **Inside Seal:**  
- **Inside Burn:**  
- **Total Turn:**  
- **Outside Burn:**  
- **Tension Control:** 1/3  
- **Tension Speed:** Low  
- **Preset Produce:** 10000  
- **Cap 1 Capacity:** 3.276.75  
- **Cap 2 Capacity:** 3.276.75  
- **(F5) Clear Count:**  
- **(F6) Calculate Turn:**  
- **(F7) Printer Data:**  
- **(F8) Set Parameter:**
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Flow Chart

START

Pressure Roller ON/OFF

Seal Inside

Seal Outside

Hi-Speed Winding

Lo-Speed Winding

Burn off Winding

Fixed Mandrel

Turn 180°

Mandrel OFF

Turn on set

STOP

Winding Scheme

With Cover Film

Burn off Material

Split Mandrel

Cutter

Wound Element

Out-Seal Iron

Metallized Plastic Film

Aluminum Foil

Adjustable Length of Burn off Film for Sealing of Outer Turns

Production Chart

(pc/hour)

1

2

3

1: URM-30 Series
2: URM-50 Series
3: URM-60 Series