

# Cylindrical Battery And Capacitor Case Grooving Machine

Item Number: YZ09



## Introduction

Adjustable cylindrical battery and capacitor case grooving machine for precise laboratory sample preparation and low volume pilot production with manual automatic operation adjustable depth width speed accurate repeatable groove forming glovebox compatible design for advanced electrochemical development applications.

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| Application                            | Description                                                                                                                               | Key Benefit                                                                                         |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Cylindrical lithium battery R&D        | Form circumferential grooves in cylindrical battery housings used to prepare laboratory cell samples during battery-material development. | Adjustable forming variables support experimental case designs and repeatable sample preparation.   |
| Controlled-atmosphere cell assembly    | Place and operate the unit inside a glovebox as part of a workflow that prepares cylindrical cases before downstream cell assembly.       | Compact dimensions support integration where controlled-environment handling is required.           |
| Cylindrical capacitor case preparation | Process groove features in cylindrical capacitor housings for laboratory development and evaluation work.                                 | The same equipment addresses both cylindrical battery and capacitor enclosure applications.         |
| Pilot-line process validation          | Run low-volume factory trial production to evaluate grooving conditions before broader manufacturing deployment.                          | Automatic mode and 6-8 pieces/minute output support practical small-batch processing.               |
| Battery enclosure format development   | Configure the equipment with an appropriate optional cylindrical battery grooving die for other supported case models.                    | Die selection helps adapt the process to different cylindrical battery housing formats.             |
| Grooving parameter optimization        | Evaluate the interaction of groove depth, tool position, rolling speed, and depth time during process development.                        | Independently adjustable settings give technical teams direct control over core forming conditions. |
| Quality-focused sample manufacture     | Produce research samples where the target groove profile must be formed with stated +/-0.1 mm processing accuracy.                        | Precision-machined rolling cutters help promote accurate and reliable groove formation.             |

| Parameter                              | Specification                                                                                                                                        |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Item Number                    | YZ09                                                                                                                                                 |
| Primary application                    | Laboratory battery-material R&D sample preparation; cylindrical battery and cylindrical capacitor case grooving; factory low-volume pilot production |
| Supported workpieces                   | Various cylindrical battery housings and cylindrical capacitor housings                                                                              |
| Optional die configuration             | Other cylindrical battery grooving dies can be selected                                                                                              |
| Grooving depth adjustment range        | 0-10 mm (adjustable)                                                                                                                                 |
| Rolling-tool position adjustment range | 0-20 mm (adjustable)                                                                                                                                 |
| Grooving depth time                    | Settable                                                                                                                                             |
| Grooving rotation speed                | Up to 300 r/S (adjustable)                                                                                                                           |
| Speed regulation                       | Stepless speed adjustment                                                                                                                            |
| Operating modes                        | Manual grooving and automatic grooving                                                                                                               |
| Grooving width                         | 1.1-1.6 mm (according to rolling-tool thickness)                                                                                                     |

| Parameter                     | Specification                                                                                 |
|-------------------------------|-----------------------------------------------------------------------------------------------|
| Processing accuracy           | +/-0.1 mm                                                                                     |
| Capacity                      | 6-8 pieces/minute (depending on operator proficiency)                                         |
| Rolling cutter                | Precision processed for accurate, reliable, and stable groove forming                         |
| Power supply                  | 220 V / 50 HZ, 140 W                                                                          |
| Compressed air                | 0.45-0.6 MPa                                                                                  |
| Structural component material | High-strength chromium steel                                                                  |
| Surface treatment             | Environmentally friendly electroplating and spray coating treatment; specified to resist rust |
| Main-unit dimensions          | 740 mm x 220 mm x 470 mm (left-right x front-back x height)                                   |
| Glovebox use                  | Can be placed and operated inside a glovebox                                                  |