

Prismatic Battery Manual Loading Machine Aluminum Shell Insertion Machine

Item Number: FX01



Introduction

Manual loading and aluminum shell insertion equipment for prismatic battery cells delivers adjustable positioning protective shell handling and dependable manual assisted assembly for battery manufacturing laboratories pilot lines and industrial production teams requiring repeatable cell enclosure operations daily.

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Application	Description	Key Benefit
Prismatic lithium-ion cell pilot production	Supports manual loading of prismatic battery cells and aluminum shells during pilot-line enclosure operations.	Provides a defined, adjustable workstation for developing and validating manual shell-insertion processes.
Battery R&D cell fabrication	Used when research teams need to assemble cells in aluminum housings while evaluating different compatible cell dimensions.	Fixture adjustment supports work across the specified thickness, width, and height range.
Cell-format changeover work	Supports processes where the active prismatic cell format changes within the supported dimensional envelope.	Tooling can be adjusted to achieve cell compatibility within the stated range.
Aluminum-shell enclosure operations	Positions the shell, expands its opening, and supports insertion of the battery cell into the enclosure.	Integrates shell-mouth expansion and transfer positioning in the same manual-loading process.
Battery process engineering	Enables engineers to evaluate insertion positioning, fixture settings, and manual completion procedures during process establishment.	Touch-screen adjustment of transfer movement data supports controlled position setting.
Low-volume or operator-led battery assembly	Applies where shells and cells are manually placed and operators remain actively involved in the enclosure sequence.	Maintains manual control while adding dedicated positioning mechanisms and transfer support.
Manufacturing quality verification	Supports review of equipment-related yield and operational reliability during prismatic-cell enclosure.	Published qualification and failure-rate targets provide measurable process evaluation references.

Item	Specification	Remarks
Site-facing identifier	FX01	Manual prismatic cell aluminum-shell insertion equipment
Process function	Manual insertion of prismatic battery cells into aluminum shells	
Production cadence	>=3-5 ppm	Determined by operator proficiency
Equipment overall dimensions	Length 1200 x Width 900 x Height 1800	
Compatible cell thickness	20-60 mm	Within the compatibility range, cell compatibility can be achieved by adjusting tooling
Compatible cell width	50-150 mm	Within the compatibility range, cell compatibility can be achieved by adjusting tooling
Compatible cell height	100-200 mm	Within the compatibility range, cell compatibility can be achieved by adjusting tooling
Equipment failure rate	<=2%	Failure rate = MTTR/(MTBF+MTTR)
Product qualification rate	>=99.95%	Refers only to product scrap caused by the equipment

Item	Specification	Remarks
Loading method	Manual loading	Operator manually places the aluminum shell and battery cell
Aluminum-shell loading location	Positioning mechanism provided	
Battery-cell loading location	Positioning mechanism provided	
Aluminum-shell handling requirement	No damage or scratches to the aluminum shell during operation	
Cell-positioning roller	Soft polyurethane roller	Presses and positions the battery cell
Aluminum-shell positioning and transfer mechanism	Module movement positioning	Position can be adjusted through the touch screen by setting movement data
Shell-mouth preparation	Shell suction mechanism expands the aluminum-shell opening before insertion	Facilitates cell insertion into the shell
Incomplete insertion method	Manual shell-press handle	Operator can press the cell into the shell to complete insertion when the cell is not fully in position