

Lab Scale Rotary Single Punch Tablet Press Machine Tdp Tablet Punching Machine

Item Number: TMP-01



Introduction

Discover high performance lab scale rotary single punch tablet press machine and TDP tablet punching machine systems engineered for uniform compaction, compliant GMP sanitary construction, variable frequency drive operation, and reliable continuous production of high quality solid dosage formulations.

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Application	Description	Key Benefit
Pharmaceutical Formulation R&D	Compaction of active pharmaceutical ingredients (APIs), excipients, and controlled-release matrix granulations into solid oral dosage forms.	Delivers consistent tablet hardness, low weight variation, and high dissolution reproducibility under GMP conditions.
Battery & Energy Storage Materials	Pressing solid-state electrolyte powders, precursor compounds, and specialty cathode pellets for laboratory electrochemistry testing.	Generates dense, uniform material discs without internal structural laminations, voids, or micro-cracking.
Electronic Ceramics & Ferrites	Compacting technical ceramic powders, dielectric oxides, and magnetic ferrite precursors into precise discs and rings.	Maintains tight geometric tolerances and uniform green density necessary for distortion-free high-temperature sintering.
Chemical & Industrial Catalysts	Forming homogeneous catalyst carrier pellets, desiccants, and solid chemical reagents from granular substrates.	Ensures robust mechanical attrition resistance and repeatable pellet diameter under sustained multi-hour runs.
Nutraceuticals & Dietary Supplements	High-speed punching of herbal extracts, vitamin blends, and mineral complexes into swallowable, chewable, or effervescent tablets.	Achieves steady throughput of up to 9,000 tablets per hour with tool-less cleaning between different botanical lots.
Powder Metallurgy Compaction	Cold consolidation of fine metallic powders, alloy matrices, and sintered carbide components for metallurgical sample prep.	High 60 kN maximum compression force guarantees sufficient green strength prior to secondary thermal sintering.
Food & Confectionery Processing	Pressing powdered sweeteners, functional food ingredients, bouillon cubes, and confectionery compressed lozenges.	Sanitary product-contact surfaces completely eliminate particulate trap zones, meeting strict food-grade cleanliness standards.

Technical Parameter	Specification Value (Model: TMP-01)
Product Item Number	TMP-01
Die Quantity	5 stations / pieces
Maximum Compression Force	60 kN
Maximum Tablet Diameter	18 mm
Maximum Tablet Thickness / Height	6 mm
Maximum Filling Depth / Height	15 mm
Turret / Disc Rotation Speed	30 rpm
Production Capacity	Up to 9,000 pieces/hour
Drive Motor Power	2.2 kW
Main Drive Control	Variable Frequency Drive (VFD) stepless regulation
Structural Material	Full stainless steel enclosed exterior and internal stainless table

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Turntable Surface Treatment	Polished and passivated anti-stick, anti-cross-contamination surface
Enclosure Windows	High-transparency safety glass with full opening access
Overload Protection	Integrated automatic mechanical-electrical overload shutoff
External Dimensions (L × W × H)	960 mm × 660 mm × 1,230 mm
Net Operational Weight	320 kg
Powder Recovery Compatibility	Optional external vacuum cleaner powder recycling interface
Tooling Customization	Standard round or custom-profiled tablet dies made to client specifications