

automated screw cap decapper for 96 and 100 well plates

Designed for high throughput sample processing in modern laboratories, the automated screw cap decapper is able to automatically perform the tasks of opening and tightening the caps of multiple sizes of tubes, enhancing the efficiency of experiments and operational safety.

Model: CD20

Automated Screw Cap Decapper

Main Features

1. Modular structure design: Quick-change uncapping modules support both 96-well and 100-well plate formats without replacing the whole device.
2. Intelligent identification: Built-in high-precision sensors automatically recognize tube sizes/types to prevent misuse.
3. Multi-mode operation: Functions independently or integrates with liquid handling platforms, robotic arms, and automation systems.
4. Clean & safe: Drawer-type import/export structure ensures closed operation, preventing sample exposure and cross-contamination.



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5. Intuitive interface: Touchscreen control for one-key start, parameter setting, and status monitoring.
6. Compact size: 360×470×550mm—fits most lab benches and environments.
7. Wide power compatibility: 220V/50Hz and 110V/60Hz models available for global lab use.

Advantages

1. High-throughput: Processes full plates of sample tubes rapidly, ideal for batch biosample management.
2. High precision & repeatability: Accurate torque control ensures consistent cap opening/closing and sample integrity.
3. Enhanced safety: Minimizes direct contact with samples, vital for handling biohazardous/chemically active materials.
4. Easy maintenance: Modular design simplifies upkeep and extends equipment lifespan.

Working Principle

The device uses a drive system to control multiple screw cap heads, precisely managing rotation speed and torque per sample type. Intelligent sensors identify tube types and adjust force parameters for accurate uncapping or capping. Drawer-type inlet/outlet keeps processing closed, eliminating contamination risk.

Application Areas

1. Biological sample storage: Opening/closing frozen samples, blood/urine tubes, cell suspensions, etc.
2. Clinical medical testing: Sample pre-treatment in hospitals, labs, genetic testing centers.
3. Automated dispensing: Works with robots for fully automated cap opening, dispensing, and closing.
4. Vaccine & biopharmaceutical R&D: Standardized large-volume sample handling for drug development.
5. Environmental/food testing: Analytical labs with high sample volume and frequent processing.