The High-Speed General Aerodynamic Differential Cap-Sorting Machine

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1. Objective: The currently-used manual cap-sorting technology has great defects. It is extremely in need of an automatic cap-sorting machine to improve the present situation. 2. Steps: After testing all the existing commercial cap-sorting machine, they all prove inapplicable. Therefore, the thinking of aerodynamic cap-sorting has come up: Two parallel high-pressure airflow acting on caps from opposite directions,causing the result that cap opening downwards is blown away, while the caps opening upwards are blown out in procession . The experiments have been improved through trial and error. The following subject matter knowledge is applied: Physics - force, Electronic engineering- differential, differences amplifier, Mechanical engineering - mechanical structure, Aerodynamics- Coande Effect, Mathematical statistics etc. 3. Data: The design index: speed >5 PCS/S, fault rate < 0.1%; 100000PCS testing result: speed =6.5 PCS/S, fault rate < 0.05%. 4. Conclusion: This automatic machine is tolerant of shape and deformation of caps, and works stably and reliably. The performance meet each design index. The machine can be widely used in many industries such as edible oil, beverage, cosmetic, medicine etc.