

Precision Microdrives Motor Case Study

Bench-top Pill Counting Instrument Mechanical Aid Hopper Vibration Kit

THE APPLICATION & SOLUTION

Vibration is not only used for haptic feedback, and user interface notifications. In this example, our customer is a manufacturer of bench-top pill and tablet counters. Some parts of their machines were being upgraded to handle larger quantities of pill and tablets, and in some climates, the humidity would cause the tablets to temporarily block the internal pathways of the machine.

The customer tasked us with designing and manufacturing a kit of long lasting vibration motors that could be affixed to the machine hoppers, in several locations. This mechanically aided the pills / tablets in their journey through the machine, preventing blockages. The kit contained two durable vibration motors, fixing enclosures, mounting fasteners, flying leads & an electronic motor driver.

TECHNICAL SPECIFICS

The first technical job on this project was to understand the frequency and magnitude of vibration required to dislodge blockages within the machine. We had been given lifetime and environmental requirements and with some prototype testing done, designed a long-life brushed motor with eccentric mass that would hit the target vibration frequency and amplitude. The customer confirmed the preferred fixing points on their machine, and we designed an chassis enclosure that would secure the motor whilst protecting it from humidity and dust. We used a spot-welding manufacturing technique for the chassis, and added a PCB backpack onto the motor to include a EMI filter. The flying leads were secured with epoxy to the PCB backpack, and the whole wiring harness was secured with a spot-welded strain relief fixture onto the chassis. The two motors, fixing components, wire sets and driver module, were all serialised, labelled, and kitted together into a single carton package, with protective foam and fitting instructions.

HOW PRECISION MICRODRIVES CAN HELP YOU

Modern motor / mechanism design and manufacturing, is a highly challenging multi-discipline engineering activity.

Precision Microdrives can save you time, money and stress. With so many applications engineered successfully, we have a huge amount of experience and know-how. We also have a first class manufacturing infrastructure, and an industry leading testing and validation capability.

[Call](#) or [email](#) today and our engineers will set-up a call to review your application.



FIND OUT HOW WE CAN SUPPORT YOUR APPLICATION

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