



Product

Precision Tork™ Clutches

Application

Lip Balm Container Assembly System

Highlights

- Fast, precise torque adjustment
- Torque is constant with respect to speed
- 0.5 to 22 oz.in. torque range
- Easy to set and maintain torque
- Dichromate coating for improved corrosion-resistance
- Precision ball bearings
- Low drag seals
- Hollow shaft with crosshole
- Long service life

Schaffer Tool & Design, a leading manufacturer of custom designed machinery for automation, required a reliable clutch solution for use on their 3-piece staple propel/repel (lip balm) assembly system. The propel/repel system features 3 component parts, the “elevators, screws and barrels” which are loaded into individual elevator storage hoppers. Upon demand, the hoppers convey the parts into separate vibratory feeder bowls. The vibratory feeder bowls orient the parts and deliver them to tracks that feed the assembly dial/carousel. Once in the assembly carousel, the elevator is placed inside the barrel. Clutches, mounted on the carousel, insert the screw into the elevator/barrel sub-assembly.

Controlling the amount of torque applied by the original clutches during assembly was a challenge. If insufficient torque was applied, the elevators would be positioned incorrectly, causing rejected parts and reducing the overall efficiency of the system. If too much torque was applied, the screw would be drawn off-center causing potential filling and/or aesthetic issues with the filled product or even broken screws.

Warner Electric was asked to help solve the machine’s clutch problems. Warner engineers carefully worked through the clutch mechanism issues with the Schaffer team and ultimately provided Model MC2-14 clutches, with a torque range of 0.5 – 22 oz.in., to meet the challenge. The clutches feature a crosshole to connect the clutch to the very small .25 in. dia. mating shaft.

The dependable Warner Electric MC2 clutches provide robust, accurate and repeatable performance without failure during testing or in the field. The assembly machines operate at approx. 300 parts per minute. While competitor machines might run faster, none are more efficient/effective with fewer damaged parts.

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