



Product

MB Series Permanent Magnet Brake

Application

Plastic Bag Closure Extruder

Highlights

- MB 2.5 permanent magnet brake
- Provides from .5 to 5.5 lb.in. of torque and dissipates up to 15 W of heat
- No frictional wear

The challenge of a Carolina manufacturer of plastic bag closures was to rewind the web of material consistently so that the closures could be used in packaging systems by their customers. For the product to work well in the end use packaging systems the roll of closures needed to be of a consistent wrap tightness and alignment.

The problem was that the extrusion of the closures occurs at a consistent line speed of 75 fpm. However, as the material is wound into a roll, that roll has to accommodate the change in diameter as the roll builds and gets larger. Coordination of the extrusion speed and the rewind motor speed proved to be difficult and the result was inconsistency of tension as the winding roll builds.

A call for application assistance was made to Warner Electric. After considering a couple options, Warner engineers recommended utilizing a size MB 2.5 permanent magnet brake, which provided the torque required for the tension needed and handled the heat that would need to be dissipated.

The MB brake was applied to a set of nip rollers that are just upstream of the winding roll. By inducing braking torque on the nip rollers, the tension would be consistent as the closures reach the winding roll. There was a slight change in tension as the roll diameter built and speed declined, but this change was negligible and did not impact roll consistency to a point where it would cause a problem when the roll is unwound.

The MB permanent magnet brake can be manually set to a given level of torque and will slip when that torque is exceeded. One of the attractive features of the MB brake is that the torque is generated magnetically. There is no frictional wear. So the unit should last many years without need of replacement.

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