



Product

ModEvo Tension Control Brake

Application

Thin Gauge Steel Coating Line

Highlights

- ModEvo 300/4 brake with 557 ft.lb. torque capacity
- 6.71 thermal HP heat capacity
- Unique modular design provides tension control versatility
- Optional cooling fan available for extreme heat applications
- Three actuator options are available with clamping forces of 100%, 60% or 25%
- Standard and low friction coefficients pad options

The challenge at a regional window treatment company was to ensure a consistent, even spray of the final coating on the steel material used in their manufacturing process. The steel unwinds from a coil and passes through multiple coating baths then through an oven. The coated steel is then buffed to a smooth finish followed by a final coating application. A consistent tension on the steel web is required to ensure that the final coating is uniformly applied.

The steel material moves at 300 FPM through a set of 24" diameter nip rollers positioned just ahead of the final coating applicator. A brake is required at the nip rollers to provide consistent pace, applying the 500 lbs. of tension across the total web width to ensure final coating application consistency.

Wichita Clutch application engineers determined that the nip rollers would have a rotational speed of 48 RPM while the brake will require 500 ft.lbs. of torque capacity and need to dissipate heat of up to 2.4 thermal HP.

Wichita's ModEvo size 300/4 brake was the ideal choice to provide the necessary torque and heat dissipation for this unwind application. The brake has a 557 ft.lb. torque capacity and a 6.71 thermal HP heat capacity when used with an optional fan. The ModEvo modular design will allow the customer to increase torque capacity or line speed at a later date by simply adding an additional set of air actuator modules. Conversely, if they need to reduce the size of the web to the point where the brake might be oversized, they can easily disconnect one of the modules from the air source to downsize the brake.

The brake is controlled via an electric-to-pneumatic transducer that varies air pressure to the brake based on a 0-10 volt analog signal from the customer's PLC control.

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