

# APPLICATION BULLETIN

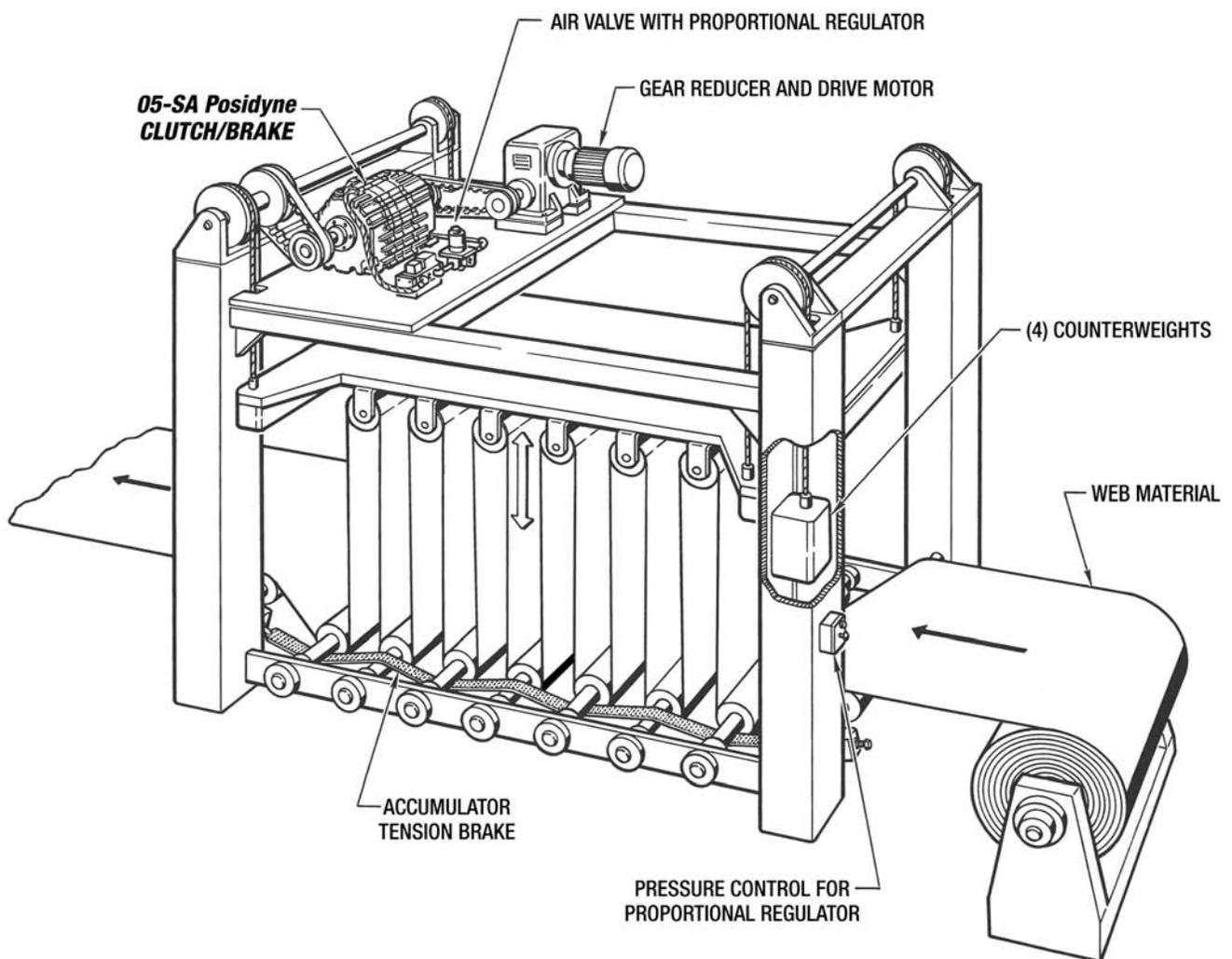


**APPLICATION:** Looper & Accumulator

**INDUSTRY:** Asphalt Roofing Shingles and Roll Goods

**PRODUCT:** Oil Shear *Posidyne* Clutch/Brake with Proportional Regulator

## LOOPER & ACCUMULATOR



# LOOPER & ACCUMULATOR

**WHERE THEY ARE USED:** Shingle and roofing roll goods plants. The Looper & Accumulator is located ahead of the asphalt coating process.

**HOW THEY WORK:** The web material, typically felt, fiberglass, or other material, is used in large rolls. The accumulator is used to store material so the roll can be changed without disrupting the continuous coating process downstream.

When the roll is empty the material is stopped at the in-feed end. The top frame, held by counterweights, is slowly pulled down as the stored material continues to be pulled out to the coater. Material from a new roll is attached to the end of the previous material, and the new roll begins to feed into the accumulator. As material is fed in, the frame slowly floats up until the accumulator is full.

During operation the frame floats between two limit switches. Counterweights raise the top frame until it reaches the upper limit switch. When the switch is made, a clutch (typically electromagnetic) engages a small drive to lower the frame until it reaches the lower limit switch. The lower limit switch disengages the clutch, and the counterweights begin to raise the frame again. The tension is determined by the counterweights. If materials requiring different tensions are used, the counterweights must be changed.

The **Posidyne** Slip Clutch replaces the electro-magnetic on/off clutch. The torque of the **Posidyne** Clutch can be infinitely and remotely adjusted by the proportional regulator to slip at a precise torque at a low speed (typically less than 50 RPM @ the clutch). Now only one set of counterweights is required, and the clutch is adjusted to apply torque equivalent to adding counterweights. The adjustable clutch torque allows for adjustable web tension. The brake is used to stop the frame if the material breaks. By reversing the motor and increasing the torque, the clutch can be used to drive the frame down when required.

**PROBLEMS SOLVED:** Counterweights do not need to be changed for different materials. Smooth tension is applied continuously to the web material without abrupt starts and stops as the frame floats between the limits. Tension can be controlled manually, or automatically by using a load cell arrangement for more precise web tension.

## IMPORTANT FEATURES:

- Oil shear technology and innovative friction materials provide smooth controlled slip for precise tension control.
- State-of-the-art proportional regulator for precise manual or automatic torque/tension control.
- Totally enclosed, oil cooled unit for long service life and low maintenance.
- Quick brake response to stop the frame in case of a web break.



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