

APPLICATION BULLETIN

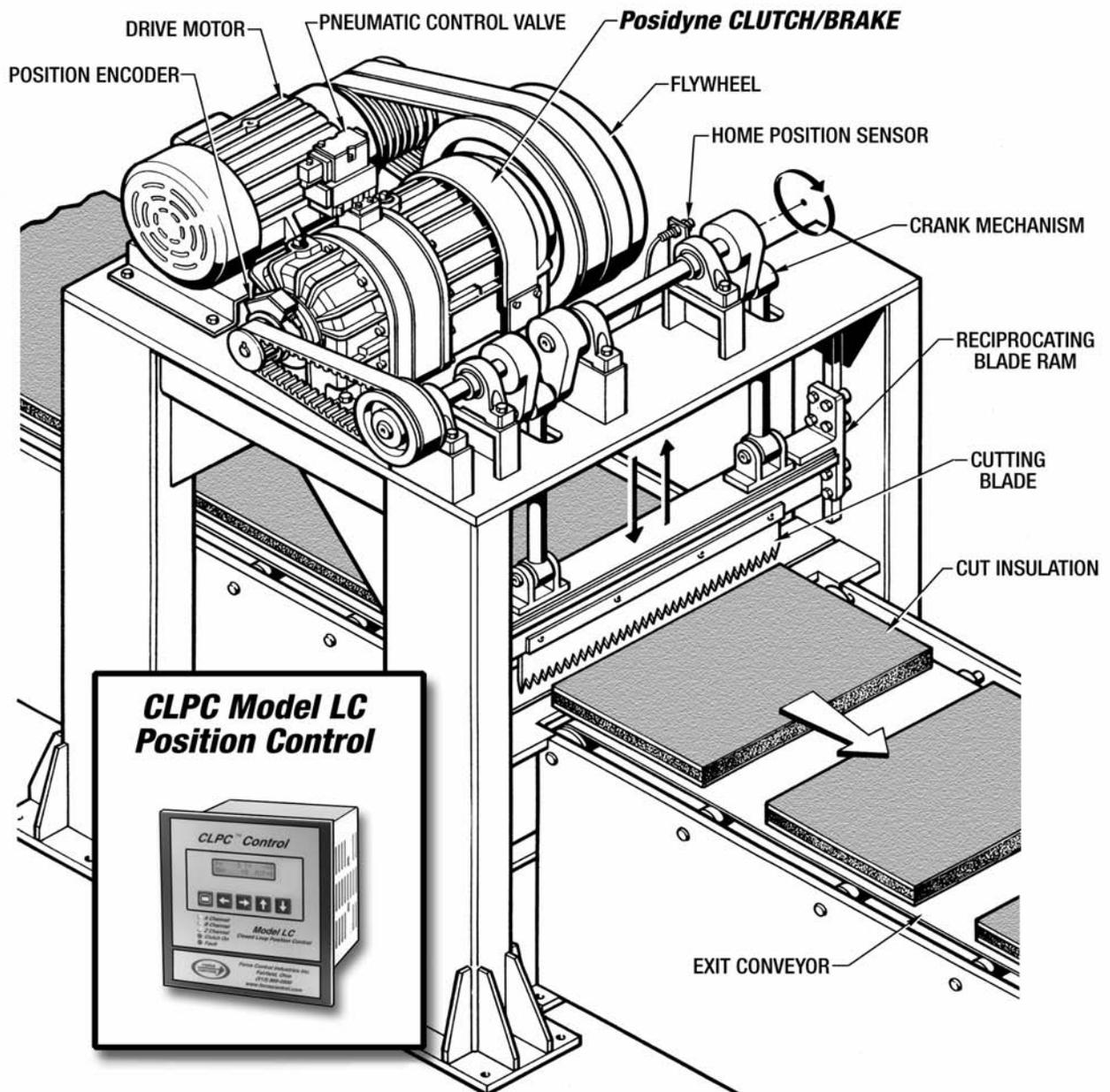


APPLICATION: Insulation Chopper

INDUSTRY: Fiberglass Insulation, Ceiling Tile, etc.

PRODUCT: Posidyne Clutch/Brake With Manifold Mounted Control Valve & CLPC LC Positioning Control

INSULATION CHOPPER



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WHERE THEY ARE USED: In the manufacture of Fiberglass Insulation or batting, ceiling tile, or other materials cut with a guillotine type shear.

HOW THEY WORK: Fiberglass and other types of insulation material are made in a continuous process and conveyed down a long cooling conveyor. At the end of the cooling conveyor a guillotine type cut-off device is used to cut to length. In some cases it could be loose type insulation on a paper backing 6' to 8' wide cut into long lengths. It can also be compressed into board material, which is quite hard and cut into short lengths.

The chopper is a horizontal blade driven by a set of crank arms, which accelerate the blade down through the material and back up to a stop position. The crank rotates one revolution for each cut.

The **CLPC LC** receives a signal to index from the PLC or length counter and engages the clutch. The count from the encoder is set to give one revolution on the crank. When this count is met the **CLPC LC** engages the brake and the drive stops in position. A home switch located on the crank arm resets the control so that the relationship of the control and the crank arm position cannot be lost (no accumulative error).

PROBLEMS SOLVED: Many problems are solved using the **Posidyne** and **CLPC LC** Control.

1. A consistent acceleration is necessary to maintain cut length accuracy - The **Oil Shear** system enables the **Posidyne** Clutch/Brake to be extremely consistent throughout the day.
2. Stop positioning accuracy is critical to length accuracy - With the **CLPC LC** Closed Loop Positioning Control with its unique compensation circuit provides accurate stopping positioning even under varying conditions such as temperature, speeds and loads.
3. As the material is continually moving through the chopper, the blade must cut through and back out of the material very quickly to avoid bunching or buckling - The **Posidyne** Clutch/Brake has very low cycling inertia related to its horsepower capacity, thus allowing increased speed with reduced power requirements. Using the **CLPC LC** control eliminates the need for the large positioning disk that further reduces inertia in the system.
4. To change the stop position of the crank the flag does not need to be physically moved. - The manual adjustment feature on the **CLPC LC** control provides a quick easy way to adjust the stopping position of the crank at the touch of a button. This can be used to tune the chopper for the quickest response related to thickness of the material being cut.
5. Overlap of the clutch and brake unit cause additional drag and high wear - The **Posidyne** being a Clutch/Brake assembly with centrally located actuation piston eliminates the potential overlap possible when controlling two separate units.
6. High maintenance, loss of production due to wear and failures - The high degree of reliability of the **Posidyne** Clutch offers many years of maintenance free operation.

IMPORTANT FEATURES:

- **Oil Shear** technology and innovative friction materials provide consistent, acceleration, deceleration and stop. It also provides long service life with little maintenance.
- Small diameter friction surfaces and output shaft provide very low cycling inertia.
- Manifold mounted valve provides extremely quick response for high speed operation.
- **CLPC LC** Closed Loop Positioning Control provides positioning feed back for accurate stops under varying conditions, digital adjustment of stopping position for quick easy changeovers, onboard diagnostics for quick simplified troubleshooting.



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