

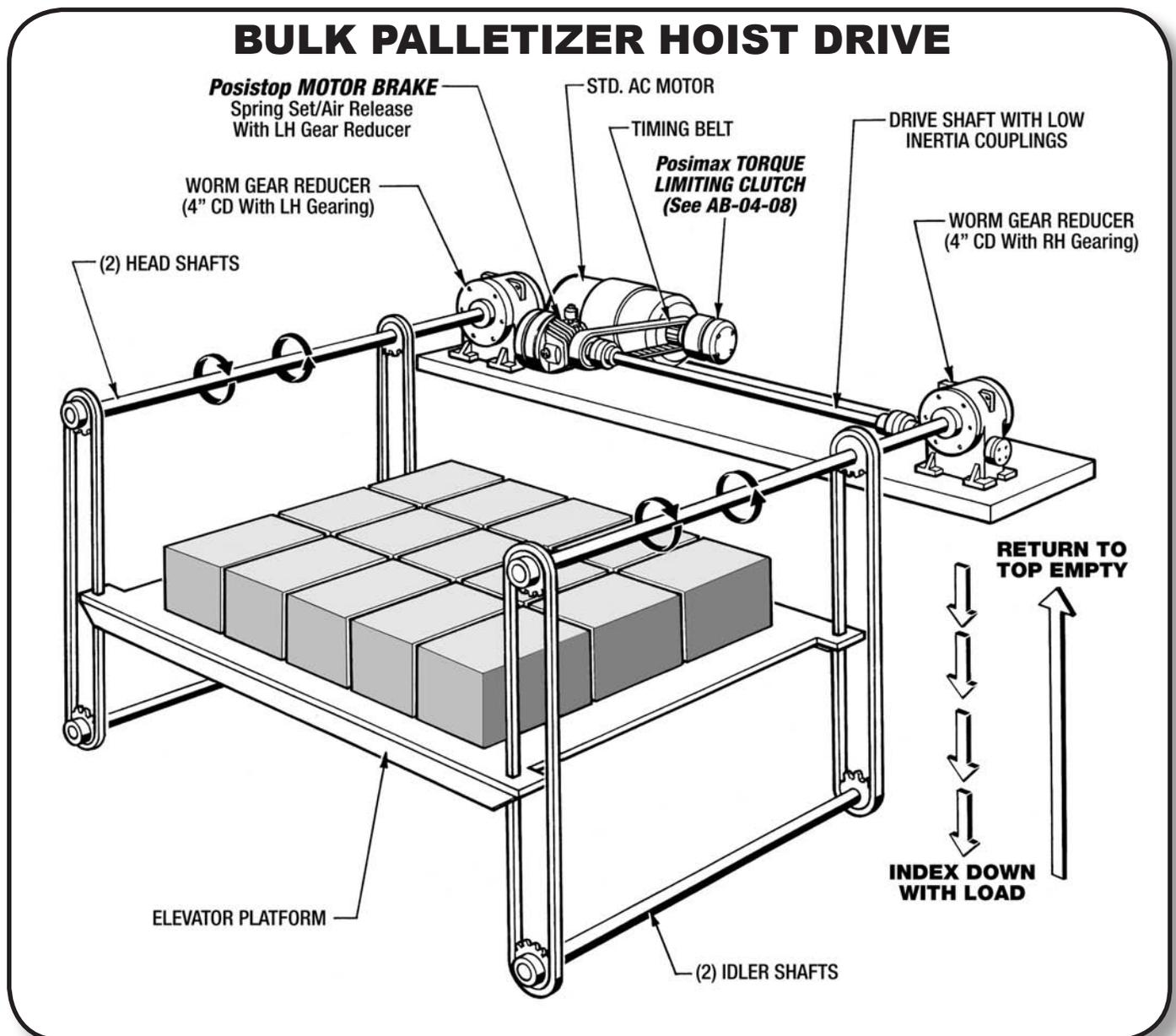
APPLICATION BULLETIN



APPLICATION: Bulk Palletizer Hoist Drive

INDUSTRY: Food, Beverage, Medical, Container and other Bulk Produced Products & Materials Palletized for Shipment

PRODUCT: Posistop Drive System - Includes Posistop Motor Brake & (2) Hollow Shaft Worm Gear Reducers plus Posimax Torque Limiting Clutch (See AB-04-08)



BULK PALLETIZER HOIST DRIVE

WHERE THEY ARE USED: Bulk material handling palletizers are used in manufacturing plants which produce soft drinks, beer, cereal, pet foods, bleach, detergent, motor oil, juice, candy, medical supplies, sugar, and other products shipped on pallets. De-palletizers are used to feed or break down the layers of palletized material. Glass, metal, or plastic containers are usually fed into a filling line or process.

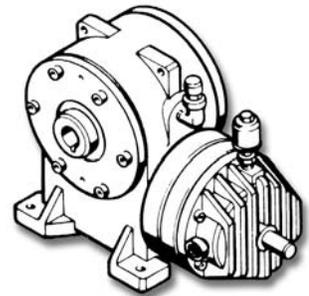
HOW THEY WORK: Material, usually packed in cases, is positioned in layers on retractable slide plates just above an empty pallet on the raised hoist platform. The slide plates retract and the product drops approximately one inch onto the pallet. The hoist drive indexes down a distance equal to the height of the product, and the slide plates close. The process is repeated until a full height of layers is obtained. The full pallet is removed by other automation. An empty pallet is placed on the platform. The hoist drive raises the empty pallet and platform to the top position to start forming another full pallet.

PROBLEMS SOLVED: The **Posistop Drive System** combines Force Control's **Oil Shear** technology with a careful balance of high shock capacity worm gear geometry to produce a remarkably smooth and accurate hoist positioning drive.

1. The effect of increased stopping distance with each increase in product weight per additional layer is virtually eliminated by the improved thermal capacity & dynamic torque characteristics of the **Posistop Oil Shear Brake**.
2. Lipping of shallow-tray products is no longer a common problem.
3. Over-stress of lift chains due to high shock engagements of dry friction brakes is eliminated by the cushioned engagements of the **Posistop Oil Shear Brake**.
4. Placement of the drive motor eliminates excessive loading of the high speed drive shaft between the gear reducers.
5. Worm gear sets are cut with a carefully selected helix angle to balance load back driving forces with locking angle effects. This prevents harsh stops while permitting the oil shear brake to provide a controlled and repeatable stop for each product layer.
6. Direct mechanical connection of the spring set brake to the worm reducer input shaft minimizes dependence on other power transmission components to hold the hoist load.
7. The **Posimax Torque Limiting Clutch** provides jam protection for the motor, drive, and lift system. See *Application Bulletin AB-04-08 for details*.

IMPORTANT FEATURES:

- Multiple-disc, spring-set, **Oil Shear Motor Brake** for long service life.
- Advanced friction material and **Oil Shear** design provide consistent, reliable stops.
- Worm gear geometry combined with **Oil Shear Brake** provides smooth, controlled, & accurate positioning at each layer stop.
- Rugged and heavy construction for long service life.



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