ADVANCED SERVO VIBRATION & SERVO EQUIPPED MAIN DRIVE

Combine to Bring New Life to Besser Cam Machines

Patent Pending

These new enhancements, through the use of Servo motors, smooth out the machine cycle resulting in the production of higher quality concrete products. Equally important, it extends the life of machine and mold parts.

Precisely controlling the acceleration and decelleration of the bull gear maximizes the life of machine parts by reducing the force to the machine components. Synchronizing vibration, by accurately controlling the movement of the vibrator shafts, increases mold parts life by 30% or more.

Operating the servo motor on the Main Drive creates power during deceleration. This power is sent to the main electrical panel for use by either the main drive during acceleration or by the Advanced Servo Vibration (ASV).

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Advanced Servo Vibration

ASV generates fully synchronized vibration starts and stops which:

- Provides more vertical vibration at the start of the cycle which aids in compaction of the material in the mold and potentially reduces feed time
- Provides uniform distribution of material throughout the feedbox, even to the bottom of the mold
- Higher speeds can provide a better product finish
- Feed and Finish times may be reduced resulting in a faster cycle rate
- The ability to decrease speed of stripping of product can reduce culls and aids in the manufacture of hard-to-form products such as thin-walled block
- Reduces material segregation
- Reduces material “jumping” out of the mold box
- Reduces horizontal mold movement during machine cycles for longer mold life
- Offers a dual vibration mode for hard to fill molds, reducing ragged top edges caused by material rolling back into the mold cavity

Since ASV is direct drive, there are no sheaves or belts to adjust or maintain and no air is required. Installation is simple and requires minimal changes to existing concrete products machines by utilizing mold guidance blocks or pin guidance.

Main Drive Servo

- Replaces mechanical components (clutch and brake), and the related wear and tear, with electronic components
- Provides control of the machine cycle so operation can be tailored to the specific concrete units being produced, increasing overall cycle speed
  - Up to six different speed settings per machine cycle are possible
- Reduces pinion and bull gear maintenance
- Provides exceptionally smooth block delivery
- Provides the ability to run a wider range of products
- Reduces wear on feedbox shaft bushings

Advanced Servo Vibration components include all mounting hardware necessary to bolt to the existing frame. Servo motors easily connect to the vibrator via quick disconnect flexible couplings.

STANDARD FEATURES

- Bosch Rexroth servo motors: two for ASV, one for Main Drive
- Electrical panel containing drives, power supply, modem and disconnect
- Cables: two for ASV, one for Main Drive
- Software and operator interface modifications
- Mounting hardware
- Ethernet modem for remote Besser support

ASV only

- Quick disconnect drive shafts and couplings
- Cooling fans
- Guarding
- Dual accelerometers

Main Drive only

- Bescodyne Drive is replaced by a simple intermediate pulley shaft, bearing and belts

Installation

- Up to 5 days for complete installation

SPECIFICATIONS

Power

- 380-460 VAC (230 and 575 VAC requires a transformer)
  Note: A clean, stable power source is necessary; a filter may be required

Electrical Panel

- Minimum requirement: Allen-Bradley SLC5/02™ with color graphic touch human-machine interface (HMI)

Vibrator Speeds

- Up to 3100 RPM with standard vibrator bearings/housings
- Up to 4000 RPM with air/oil bearing/housings lubrication system (optional - see below)

Retrofits for Existing Besser Cam Machines

- Requires mold guidance blocks or pin guidance

OPTIONAL ENHANCEMENTS

Air/oil bearing lubrication system uses oil instead of grease allowing the vibrators to run at higher, fully controllable speeds, reducing cycle time. Fully automatic controls ensure regular lubrication.

Contact your Besser representative to visit a plant nearest you to see the advantages first-hand.

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