

Advance's Design Capabilities Give You Quality, Low Replacement Costs, & Higher Up-Time

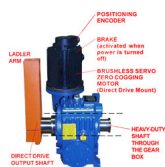
The average cost that companies spend with Advance per year on ladlers after the warranty period is under \$300 per year. Why?

Advance designs its products starting with 3D solid modeling software. The design criteria set by our president is to "design the product so it never breaks down!" That's a tough goal, but the minimal amount of money that companies spend with us on replacement parts proves the ladlers are very well designed.



The gear box in Advance's ladlers is either a ground helical gear set or a Cone Drive double-enveloping gear set where the worm is manufactured in an hourglass configuration and wraps around the worm wheel. Either provides low backlash and extremely long life.

The brushless servo motors are directly coupled to the gearset reducing service drive train problems and improving mechanical response to the servo motors.



The output shaft of the ladler linkage arms is a large, one-piece shaft that goes completely through the gear box. The positioning encoder, motor, and gearbox are giving direct drive without use of pulleys, belts, or cams.

Heavy-Duty Arm Support

On SL-2000 and larger models (more than 50 pounds of metal), the entire arm assembly is supported by a large housing with double opposed Timken tapered roller bearings. This housing assembly supports the total weight of the arm so there is no load applied to the gear box assembly, allowing very smooth arm travel without torque interruptions.



Without the weight of the arm being supported by the gearbox, the gear box works for many years of service.