



**Engineered
Products**

Reliance Servo Gearboxes

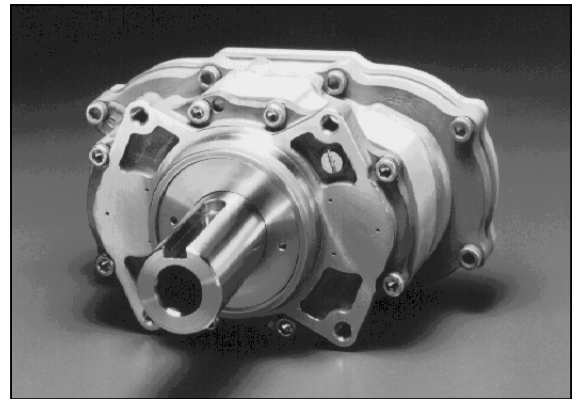
RSG - The Ultimate Servo Gearbox

The Reliance Servo Gearbox has been developed to provide the ultimate in speed reducer technology. The 'orbiting' design outperforms conventional planetary designs and gives highly reliable operation.

Product Features

High Reliability

Extensive testing has proved the reliability of this design. After 100,000,000 output shaft load cycles at rated load and speed, the typical increase in backlash is only 1 minute of arc. The gearbox lubrication has been developed such that for most applications the units can be considered 'sealed for life'.



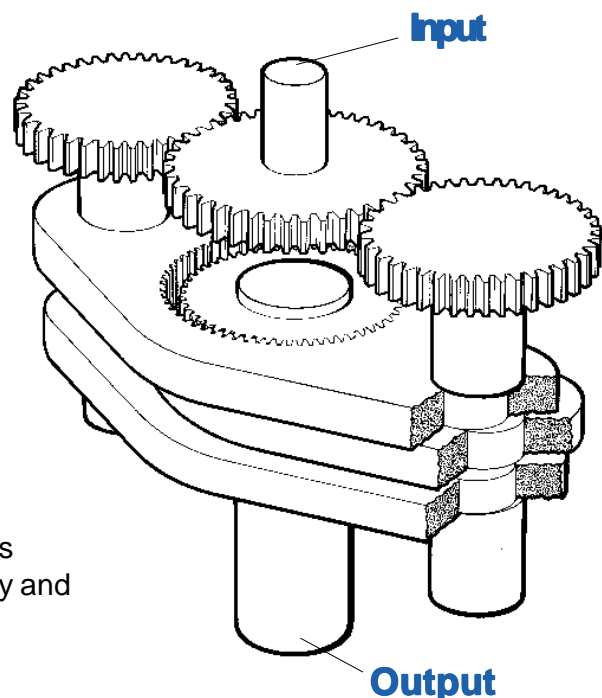
RSG 30Nm Output

High Efficiency

Typical efficiencies in excess of 85% are achieved at rated load and speed. These high efficiency figures are possible because the gearbox does not rely on the deformation of the components and resulting parasitic loads to provide the low backlash values. All RSG type gearboxes will backdrive at less than 3% of their rated torque, which makes them ideal for tandem operation with one motor/gearbox providing the anti-backlash friction.

Principle of Operation

A single pinion directly mounted on the motor shaft links the motor to the gearbox and drives two geared eccentric shafts. The fixed axis spur gears in this first pass allow high input speeds and make many ratios available. Each eccentric shaft has three cams creating a balanced orbiting motion with three internal gears. The internal gears drive the output pinion at one thirtieth of the eccentric shaft speed. Balanced end load sharing throughout the mechanism is achieved by modified gear tooth geometry and optimum manufacturing quality.



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