

## High performance bevel gearbox range extended with new size

A new size, the P-65, has been added to the Graessner PowerGear P range of bevel gearboxes available from Bedford-based Drive Lines. Being 65mm cubed in size it is expected to prove very popular in a wide range of applications, such as for use with screw jacks to create vertical lifting and lowering mechanisms.

With miniature sizes recently added to the standard range, Graessner PowerGear P units are now available in 12 sizes from P27 to P450.

They are all of identical design and use and optimised bevel gear geometry that delivers increased torque and high efficiency in a compact and lightweight package. These high performance gearboxes are available in flange, solid or hollow shaft versions.

PowerGear P gearboxes are characterised by high torque and low to medium input speeds, in a sturdy, rigid design that ensures the highest performance while being space and weight efficient. The optimised gearing delivers high torque ratings up to 7000Nm, while an optimised contact pattern assembly delivers uniform load distribution for increased reliability and longer life.

The gearboxes are available in four configurations. FL models provide an input with hollow shaft and flange, and output with solid shaft on one or both sides. L models feature input and output with solid shaft, and output on one or both sides. FH models offer input with hollow shaft and flange, and output with hollow shaft and feather key groove. And H models offer input with solid shaft, and output with hollow shaft and feather key groove. Fretting-free torque transfer is achieved using a friction locked fit between the shaft and the bevel gear.

Offering input speeds up to 7500rev/min, the gearboxes are available in ratios from 1:1 to 5:1. A high efficiency rating of 98% provides opportunities to save energy costs. Lubricated for life, the gearboxes are virtually maintenance free under normal operating conditions.

With the input and output axes intersecting instead of being inline, a key benefit of the bevel gearbox is its ability to change the direction of rotation by 90°. The PowerGear P range builds on this ability by offering a compact and robust design that combines tapered roller bearings with a ductile iron housing. The result is a versatile right-angle gear which delivers high performance in a highlight compact and lightweight package.

With their high torque, compact dimensions, high efficiency and robust, long-life design, the PowerGear P gearboxes reset user expectations for power and precision, delivering low backlash and high transmission accuracy. Typical applications for the PowerGear P bevel gearboxes include industrial machinery in challenging sectors such as paper and print, textiles, iron and steel, defence and aggregates.

Where higher torques are required within the same footprint as the P series, Drive Lines also offers the PowerGear X version in nine gearbox sizes from 54 to 280. With a 1:1 ratio, the X version offers nominal output torque up to 5500Nm with input speeds up to 4000 rev/min. PowerGear gearboxes are also available in miniature versions and high speed versions, meeting the needs of the most diverse spread of applications.

Finally, Drive Lines offers food safe versions of the PowerGear range, using stainless steel shafts and a gear housing coated with Duralloy-TDC which has been verified by Zurich-based independent test bureau Labor Veritas as safe for use as standard in foodstuff applications.

**Photo Caption 1:** PowerGear bevel gear box with angular gear high efficiency and solid shaft ratio high torque

**Photo Caption 2:** PowerGear bevel gear box with angular gear high efficiency hollow shaft and ratio torque high speed

**Photo Caption 3:** PowerGear bevel gear box with servoflange motorflange and angular gear high efficiency hollow shaft ratio high torque

## About Drive Lines

We are an independent, privately-owned company representing a number of manufacturers from across the world within the mechanical power transmission and processing industry in Great Britain and Ireland. Established in 1985 and BS EN ISO 9001:2015 approved, we are proud to serve market leaders in many machinery disciplines. Our mission is to provide reliable, versatile and cost-effective solutions. Service, quality and product excellence is at the heart of our success.

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