

case study

WASH DRUM UPGRADE AT BUXTON LIME

Tarmac's Buxton Lime quarry required replacement of the gearboxes on its No. 3 wash drums with the minimum of modification and production downtime. Ready product availability and expert technical assistance were going to be necessary to create a minimum of disturbance.



As a trusted supplier to the quarry over the years – over a hundred David Brown gearboxes are currently operating on the site - David Brown was approached to suggest possible replacements for existing gearboxes manufactured by a competitor and put forward its Series G as the best solution.

The twin wash drums, motors and drives, which process a total of 2.5 million tonnes of material per annum, were supplied some years ago as a package and came already fitted with a competitor's gearboxes. As these gearboxes approached the end of their working lives a quote was obtained for their substitution on a 'like-for-like' basis but by this stage the model had gone out of normal production and was prohibitively expensive, with a significant delay in availability, whilst an 'equivalent' product in their range would have required too much modification to be practicable, hence the attraction of the David Brown solution.

The washing plant at Tarmac's Buxton Lime plant produces hydrated limes used for a soda ash process in Cheshire and for flue gas desulphurisation at three power stations in the East Midlands.

drop-in solution



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Aiming to get as close as possible to a 'drop-in' solution, David Brown's sales team liaised closely with the quarry, inspecting the installation and providing detailed drawings and advice necessary to enable the work to be carried out. The standard gearboxes were customised to feature specially-shortened output shafts and needed only re-drilling of the base plate and the use of packing plates to raise the shaft centres to the correct height. The installation work took a total of sixteen hours while a further gearbox is being kept on site as a strategic spare.

Series G gearboxes are offered in 7 sizes from 11,000Nm to 130,000Nm output torque, with a ratio coverage of 6:3:1 to 315:1. Designed to meet the requirements of applications including bulk handling, mixing, water treatment, cooling towers and conveyor drives, Series G units can be specified in parallel shaft helical and right angle shaft bevel/helical units in double, triple, and quadruple reduction gear stages.

Modular design and construction, a high degree of interchangeability of parts and sub assemblies, and a universally machined, horizontally split casing has created a family of speed reducing gear units that can be quickly manufactured and is simple to maintain with significant delivery and cost benefits for customers.

The innovative modular construction of the inherently reliable Series G units minimises part count to maximise availability of product. Less than 160 major components meet 10,000 drive solutions. In many cases units can be ordered and delivered within days compared to a typical schedule of over 6 weeks for a comparable competitor unit. This not only produces a radical reduction in potential down-time of vital plant, but also enables end-users to reduce stock levels.

Strength and efficiency are maximised, while noise and vibration are kept to a minimum by case hardened and ground helical gears, and hard finished spiral bevel gears. For extended, efficient life, oil is kept where it belongs by the patented end-cover, which improves bearing lubrication and allows a 30% improvement in thermal capacity.



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