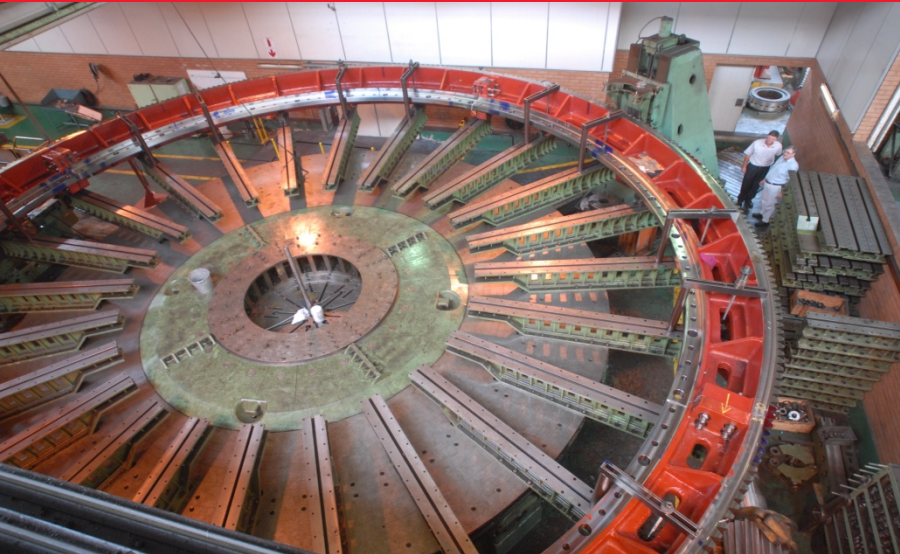


case study

new installation/
upgrade

BIGGEST GIRTH GEAR EVER FOR DAVID BROWN



Weighing in at nearly 65000 kilos this girth gear sets a new record at David Brown Gear Industries in South Africa.

 **DAVID BROWN**

engage the excellence

After a succession of recent contract wins by the South African centre of excellence and a major plan of investment, David Brown has put the icing on the cake with the announcement of an order worth US \$1.3 million from F L Smidth Minerals for a project in Armenia.



The single helical SAG mill girth gear which is cast in four pieces has 362 teeth, 0.75 DP, 863,6mm face width, 12.4m outside diameter and a 10,5m diameter bore. It is manufactured from steel with a hardness range of 269/321 BHN and the gear teeth are cut to AGMA grade 10. David Brown also supplying three mill pinions to suit the girth gear, each having 18 teeth, 3810 mm overall length, and weighing 5 090 kilograms.

Servicing a complex order in remote Armenia is all in a day's work for David Brown. A guarantee of fast delivery and the superior quality of the finished product thanks to its partnership with castings specialist Scaw Metals and its investment in a 14m Maag gear cutting machine were just some of the other reasons why the company managed to secure this contract. The Benoni factory boasts the largest range of Maag gear manufacturing and measurement equipment in the southern hemisphere.

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But aside from the complex engineering challenges that this contract poses perhaps one of the major difficulties project is coping with the location where the equipment will be installed in Armenia. When manufacture is complete the gear will be dismantled and shipped to its destination in four parts. Armenia is the smallest of the former Soviet republics and is land locked by Georgia in the north, Azerbaijan in the east, Iran to the south and Turkey to the west.

The gear is being cut on the MAAG 14m gear cutting machine and the pinions ground on their newly acquired state-of-the-art 3m Niles Grinder machine. DBGI and Scaw Metals are currently working in collaboration to finalise the gear in order to deliver it to the client on time. Scaw Metals' involvement with this project includes supplying the castings for the job to DBGI. The casting specifications were developed jointly by Scaw and DBGI during the past 15 years.

Investment in the most advanced machining and gear cutting technology, along with development of new materials used in the manufacturing process, has enabled David Brown to rewrite the rule book on girth gears.

The result is a radical reduction in lead times and the ability to achieve standards of accuracy to AGMA Level 13 and beyond. Custom-designed multi-axis CNC machinery dedicated to mill gear production, temperature-controlled gear-cutting facilities, automated and optimised design and a unique carburising capability alongside induction hardening and tempering furnaces ensure David Brown retains its position at the industry's leading edge.



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