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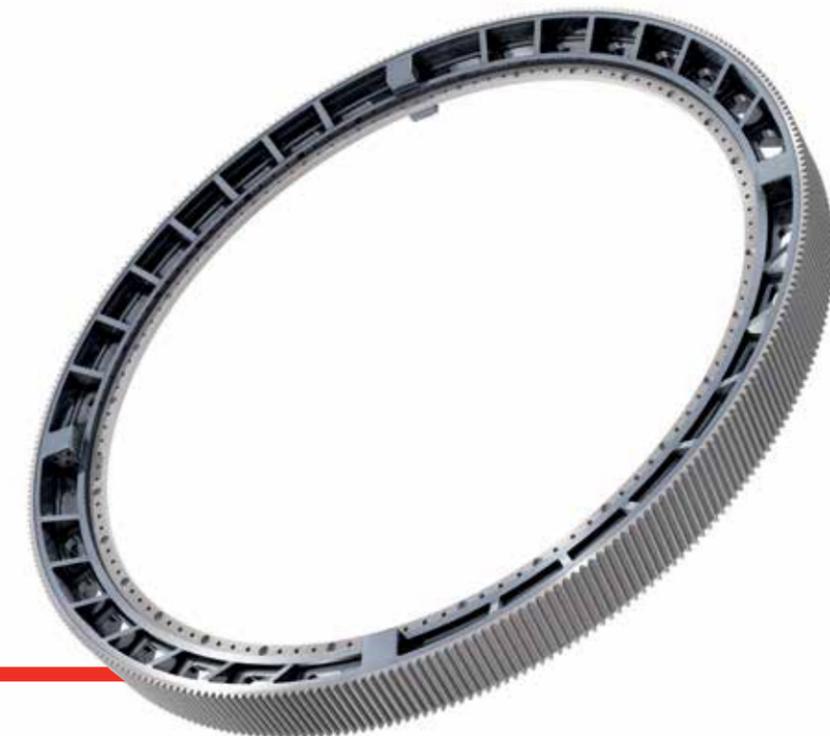
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Global version

 Moventas approved service and repair centre

The information contained in this catalogue has been obtained through sources deemed reliable but cannot be guaranteed as to its accuracy. Any information of special interest should be obtained through independent verification and consulted with a David Brown representative.

In the interest of continuous development, David Brown reserves the right to alter designs and specifications without prior notice.

David Brown is certified to ISO9001:2008. Your David Brown representative should be consulted prior to product selection and use. 3X terms and conditions apply. Contact your local David Brown representative for details and to check eligibility.

Girth gears

Girth gears for critical applications

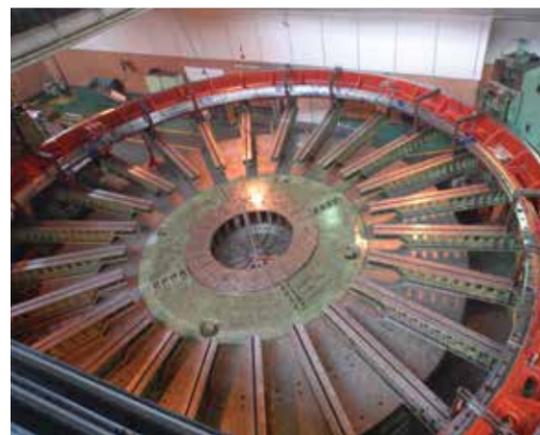
Girth gears are used in a number of the world's critical industries, including mining, cement and minerals. Usually fitted to the outside of horizontal mills, rotary mills and kilns, girth gears provide the system's primary rotational drive and as such need to be robust, efficient and built to last. Girth gears are used in a number of mining, cement and minerals processing applications, including copper, gold, silver, platinum and iron ore production where operational downtime is not an option.

David Brown has more than 150 years of global gear engineering experience and a huge installed base of successfully operating girth gears – we are your ideal girth gear designer, manufacturer and service partner.



Robust and reliable

- High integrity girth gears designed for ultimate strength and reliability
- Options for cast steel, SG iron and forged/fabricated gears
- 320BHN hardness can be achieved with cast gears, 340BHN with fabricated options
- Designed and manufactured to major international standards including AGMA
- Proven designs supported by a global reference list
- 3X three year warranty packages available for extra assurance



Global expertise delivered locally

- Extensively field tested and proven
- Access to a global network of service, installation and operation experts
- Global manufacturing capabilities supported by a professional supply chain
- Customer focused approach – when you need us, we will be there
- Capacity up to 14m diameter

David Brown girth gears have been proven in some of the world's most challenging environments. Each gear is manufactured for operational robustness and this ensures that our customers receive the high integrity gears their business needs. Here are just a few of our global references:

Gear OD [mm]	Mass [kg]	Power [kW]	Material	Country	Application
5000	27000	1200	Fabricated steel	Chile	Rod / Gold
5500	18000	1500	Fabricated steel	Namibia	Rod / Uranium
7100	40000	3000	Fabricated steel	South Africa	Ball / Gold
7209	31416	2500	Cast steel	Malawi	Ball / Uranium
8456	57127	6500	Cast steel	Zimbabwe	SAG / Platinum
8500	47000	2500	Fabricated steel	South Africa	SAG / Platinum
8974	41724	2880	Ductile iron	South Africa	Ball / Titanium
9135	76851	6800	Cast steel	Armenia	SAG / Copper
9568	38796	2800	Cast steel	Siberia	Scrubber / Diamonds
10267	92370	2 x 2400	Cast steel	Brazil	Kiln / Nickel
11410	74420	6500	Cast steel	USA	Ball / Iron
11576	43210	2611	Ductile iron	Canada	Ball / Iron
12142	92000	6000	Ductile iron	Australia	Ball / Iron



Key features

When reliable operation is key, look no further than David Brown. Our extensive experience in cast and fabricated gearing ensures that when you need maximum process availability – David Brown is your first choice.

All applications for all industries



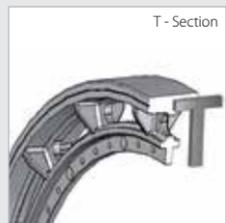
- Girth gears expertly designed and manufactured for:
 - Mills
 - Kilns
 - Dryers
 - Coolers
 - Scrubbers
- In a variety of industries including mining, cement and minerals processing

Key features



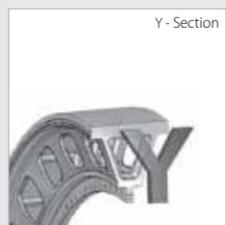
- Girth gears rated up to 10MW per pinion.
- Diameter up to 14m
- Weight up to 105 tonnes
- Pitch up to 50 module
- Options for 2, 4, 6 and 8 segment manufacture
- Designed to the latest AGMA standards for complete assurance

T section gearing options



T section gears are designed with optimised stiffness across the face width. Compared to Y section gears, T section gears are less stiff on the edges and are more resilient against pinion misalignment. David Brown uses Finite Element Analysis (FEA) to deliver optimal gear performance.

Y section gearing options



Y section designs have been extensively used on rotating mills and kilns for many years and David Brown has long standing experience in providing this type of gear. Y section gears offer optimal rim support and stiffness over the facewidth of the gear, ensuring the girth gear is as robust and reliable as our customers need it to be.



Gear system capability

Girth gears can be supplied individually, or as part of a fully optimised MDX mill drive package which includes:

- Mill drive gearbox
- Pinions
- Auxiliary equipment including couplings, brakes, pedestal bearings and clutches
- Girth gear
- Barring drive

Whichever option you chose, be assured that your girth gear will be designed to complement the whole system.



Material options: fabricated steel

- Proven alloys are used for gear rim construction, resulting in minimum hardness values from 180 to 340BHN and high impact strengths - typically 35J, but can be as high as 90J
- Gear segment rims are hot forged using our unique hot forming process for greater material consistency and reduction of residual stresses
- FEA techniques are used to model stress patterns and ensure appropriate material choice for robust operation



Material options: cast SG iron

- Hardness ranges up to 310BHN
- Spheroidal Graphite Iron (SGI) gear castings deliver excellent material quality
- A lower stiffness rating improves load sharing across the face and between teeth, reducing pitting and ensuring a long lasting, reliable gear
- FEA techniques are used to model deflections under load to optimise and match the design to the material properties

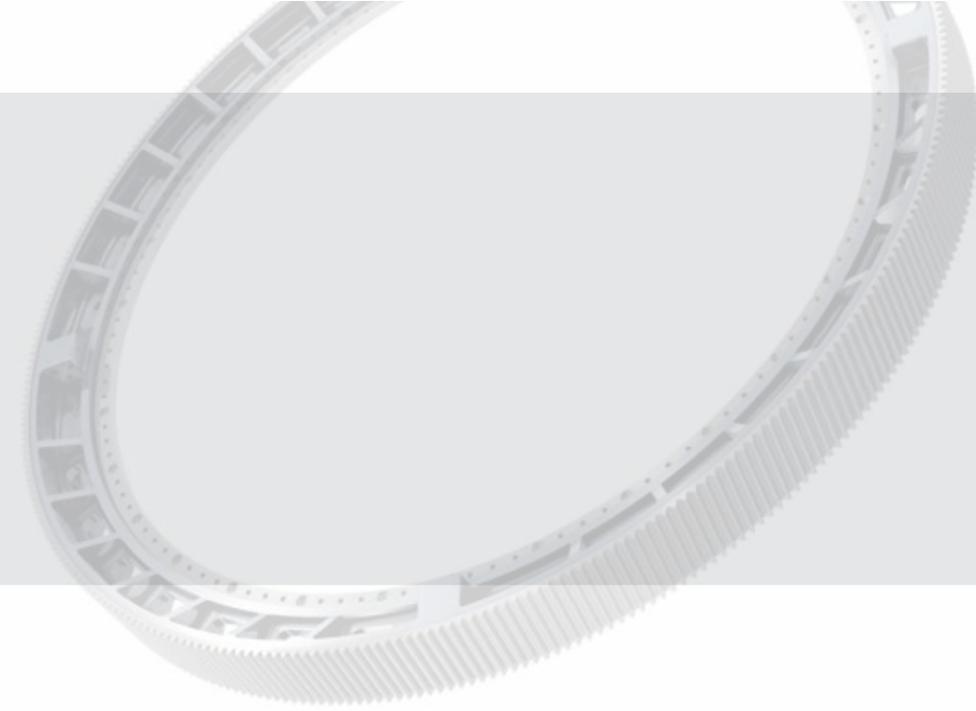


Material options: cast steel

- Hardness ranges up to 320 BHN
- Alloys designed to achieve the required mechanical properties and retain the ability for weld repairs in the field
- Castings can be liquid quenched during casting manufacture to achieve the desired mechanical properties with reduced risk of cracking
- Field proven procedures for managing the upgrading process to improve integrity



Lifetime support delivered to all girth gear customers



We are proudly collaborative and pride ourselves on the long term relationships we have with our customers – even if it's just advice they need, our customers know they can always rely on David Brown to provide an honest, professional perspective.

In situ inspection

Using the latest technology, our service engineers can inspect your girth gear to ensure it continues to run smoothly. Regular in situ inspections can help identify issues before they cause failure so they are an ideal way to reduce expenditure on emergency repairs.

Gear repair

Depending on the design of your girth gear our engineers can conduct repairs in situ to reduce downtime to its lowest level. If your girth gear cannot be repaired at site, our proposals team will strive to minimise the costs associated with removing your girth gear from its application. Utilising more than 150 years of global gear engineering expertise, we will strive to get your geared drive up and running again as fast as possible.

Gear upgrades

If your process needs additional capability David Brown can provide upgrades which comply with modern manufacturing techniques and incorporate improvements in materials and heat treatment technology. The new girth gear can be upgraded to engineer out any original design flaws without changing the space requirements or interfaces.

Drop in replacement gears

David Brown's rapid engineering capabilities mean we can offer drop in replacement gears. By ensuring total dimensional interchangeability, we can ensure your new girth gear is installed without modifications to the rest of the equipment. This minimises the risk and time for re-installation of replacements whatever the application.

Full asset management

Our asset management programmes proactively look after your girth gear with regular inspection, carefully scheduled repair and upgrades.

3X extended warranties

David Brown offers a full three year extended warranty on any girth gear that's serviced, repaired or upgraded by David Brown at our manufacturing and service facilities across the globe.

With 3X your girth gear will be installed, commissioned and maintained at regular service intervals by a specialist service engineer local to you. You will have access to round the clock support through our global network of service and repair centres.

