

2022

**MGT Magnetic Gears
& Couplers**

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Contacts

Australia

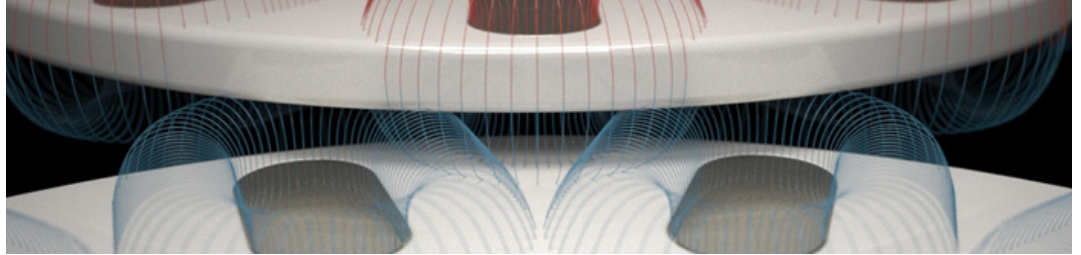
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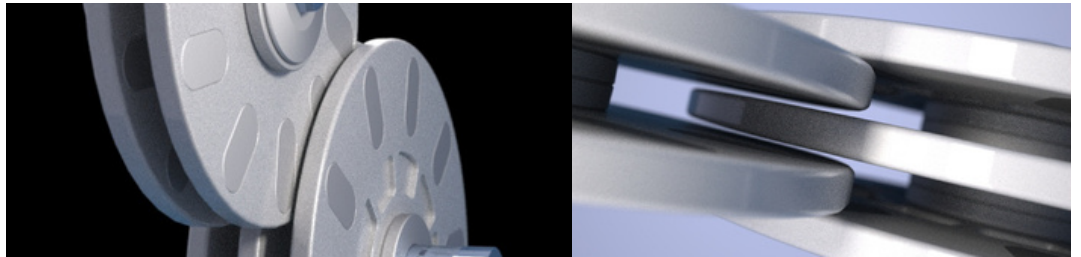
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NO WEAR, 99.9% EFFICIENT - ENVIRONMENTALLY BRILLIANT



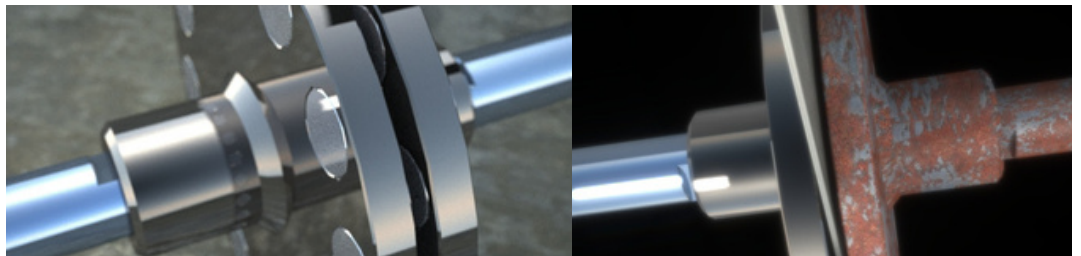
The MGT magnetic transmissions work in repulsion, having an efficiency of 99.9%. They are for example 22% more efficient than a belt drive. Independent tests in Holland and South Africa confirm that they are even more efficient than a direct drive.

HI-TORQUE MAGNETIC GEARING



The mag wheels are stackable so that large amounts of torque can be transmitted. The wheels never touch each other. They will not transmit heat or vibrations, they will run quietly and will not wear out. Five injection molded standard sizes wheels and couplers are available now so that clients can obtain the gearing ratio they need. Other gearing ratios and OEM applications are welcome.

UNBREAKABLE COUPLERS CONNECT THROUGH WALLS



The magnetic couplers share the same properties as the magnetic gearing. They can transmit power through walls. They can slip without wearing out and are already used to transmit power through boat hulls. The standard couplers transmit power up to 150Nm, stronger ones are available.

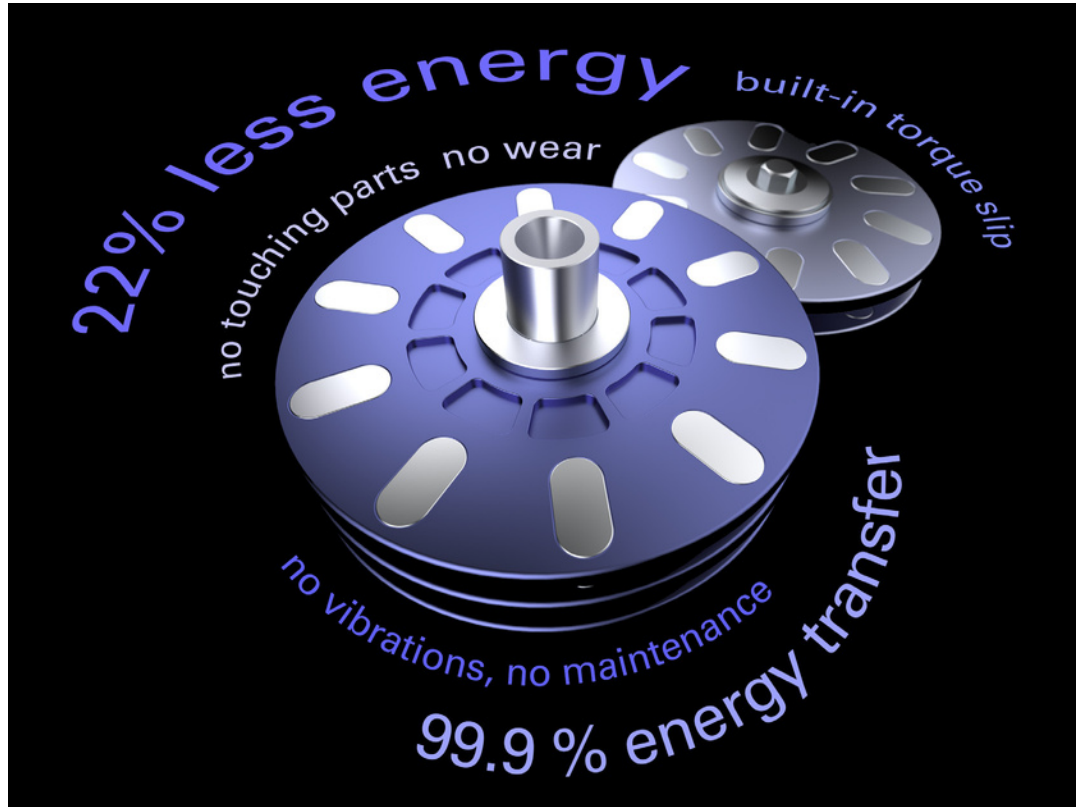
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STANDARD GEARING

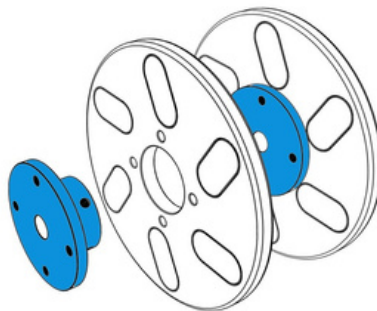


Multiple drives retain overall the 99.9% efficiency of the mag wheels. In fact, by adding or subtracting different diameter wheels on the same output shaft, different rpm and torque values can be implemented for shafts driven by the same drive mag wheel.

What you obtain is for example a gear box with different torque and rpm outputs, having built-in slip for every shaft. For example, if one of the devices driven by any of the output shafts seizes, the other ones will still be driven, with no damage to the whole assembly.

Combined with the silent, efficient and vibration free operation of the assembly, this type of gearing is unbeatable in many applications.

Compared to a belt drive with multiple pulleys, this type of transmission is far more efficient, exceeding 22%. The magnets are long-lasting, Zn coated and can be replaced.



Standard inserts (blue) are available in different metric and imperial sizes.

Blank inserts are available as well.

High-torque inserts are under development for automotive, industrial, marine and aerospace uses.

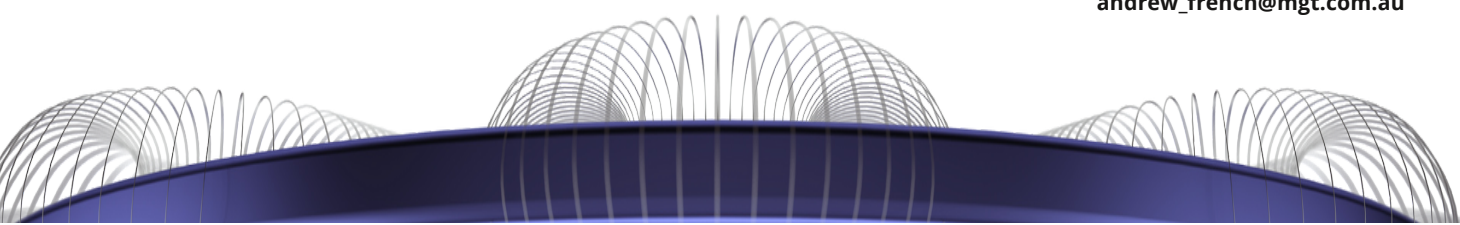
All mag wheels have the same ID (40mm), thickness (10mm) and hole spacing.

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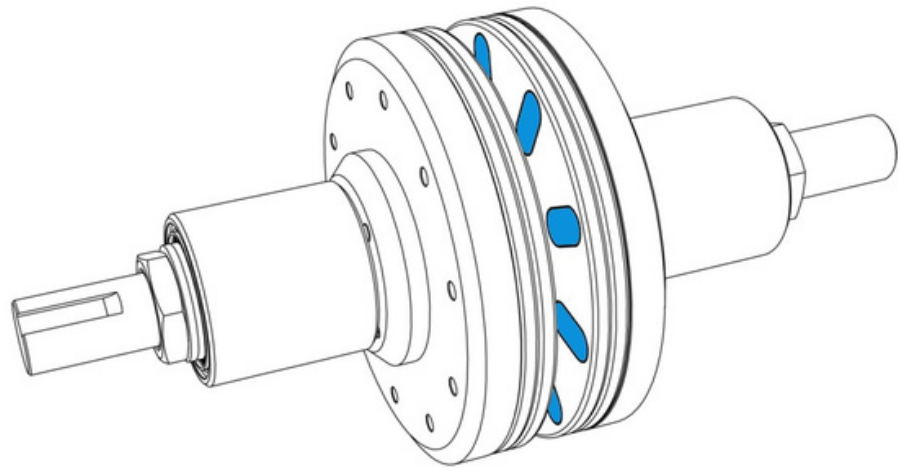
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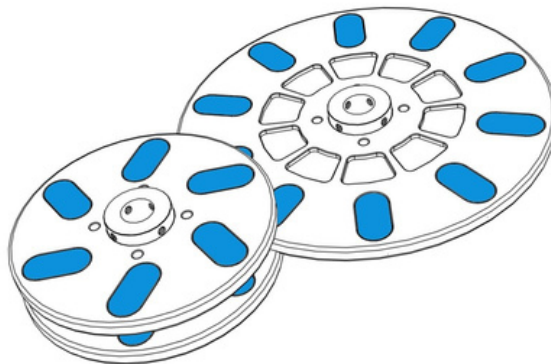
STANDARD COUPLINGS



The standard magnetic wheels can be used either as gears, or as couplers. In the above picture, two standard 240mm discs have been attached to each side of a plate. They work as a coupler and can transfer up to 88 Nm (in this example).

When is it overloaded, it just slips. The coupler faces do not touch each other, so that no vibrations are transmitted through the coupler. We are now developing couplers capable of torque values in excess of 600 Nm. We have previously supplied 150 Nm couplers. Please let us know if you have a specific need when it comes to couplers.

In the example below, the same 240mm standard magnetic wheel is used as a gear.

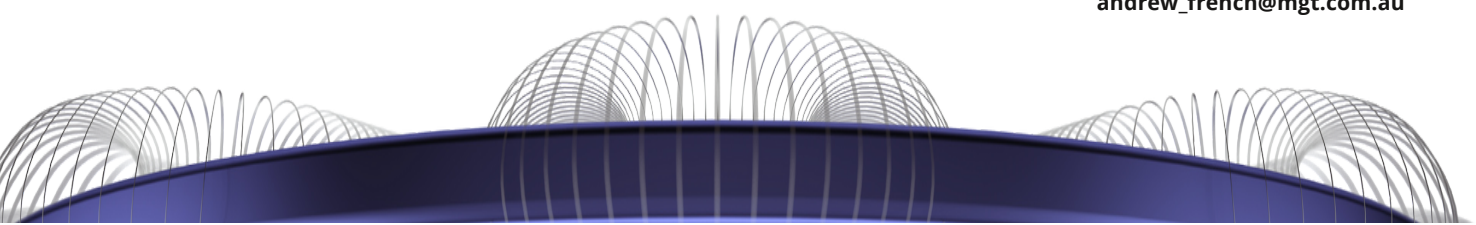


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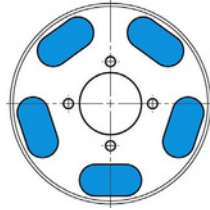
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MAG WHEEL 130



Inside Diameter	Outside diameter	Part #
40	130	WP 1 40 130



Gearing Modes	1000 rpm	2000 rpm	3000 rpm	3600 rpm
1 on 1	0.28 kW	0.57 kW	0.85 kW	1.02 kW
1 on 2	0.71 kW	1.42 kW	2.12 kW	2.55 kW
2 on 2	1.13 kW	2.26 kW	3.39 kW	4.07 kW



Coupling Modes	Air gap 1mm	Air Gap 3mm	Air Gap 5mm	
1 on 1	6 Nm	4 Nm	3 Nm	
1 on 2	5.5 Nm	5 Nm	4.5 Nm	
2 on 2	10.5 Nm	8 Nm	6 Nm	
2 on 3	10.5 Nm	8 Nm	6 Nm	
3 on 3	12 Nm	8 Nm	6 Nm	

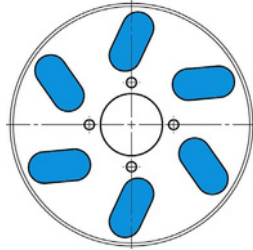
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MAG WHEEL 160



Inside Diameter	Outside diameter	Part #
40	160	WP 1 40 160



Gearing Modes	1000 rpm	2000 rpm	3000 rpm	3600 rpm
1 on 1	0.31 kW	0.63 kW	0.94 kW	1.13 kW
1 on 2	0.78 kW	1.56 kW	2.34 kW	2.80 kW
2 on 2	1.24 kW	2.49 kW	3.73 kW	4.48 kW
2 on 3	1.71 kW	3.42 kW	5.13 kW	6.16 kW



Coupling Modes	Air gap 1mm	Air Gap 3mm	Air Gap 5mm	
1 on 1	16 Nm	15 Nm	12 Nm	
1 on 2	17.5 Nm	15 Nm	12 Nm	
2 on 2	23 Nm	16.5 Nm	13.5 Nm	
2 on 3	26 Nm	22 Nm	17.5 Nm	
3 on 3	26 Nm	22 Nm	17.5 Nm	

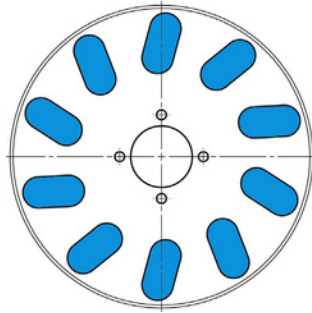
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MAG WHEEL 200



Inside Diameter	Outside diameter	Part #
40	200	WP 1 40 200



Gearing Modes	1000 rpm	2000 rpm	3000 rpm	3600 rpm
1 on 1	0.42 kW	0.84 kW	1.26 kW	1.51 kW
1 on 2	1.04 kW	2.09 kW	3.13 kW	3.76 kW
2 on 2	1.67 kW	3.34 kW	5.01 kW	6.01 kW
2 on 3	2.29 kW	4.59 kW	6.88 kW	8.26 kW



Coupling Modes	Air gap 1mm	Air Gap 3mm	Air Gap 5mm	
1 on 1	30 Nm	19 Nm	14.5 Nm	
1 on 2	36 Nm	25 Nm	20 Nm	
2 on 2	45 Nm	34 Nm	25 Nm	
2 on 3	45 Nm	35 Nm	26 Nm	
3 on 3	45 Nm	38 Nm	29 Nm	

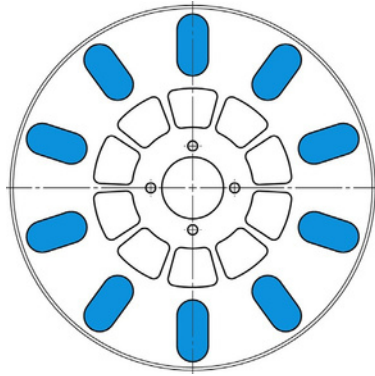
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MAG WHEEL 240



Inside Diameter	Outside diameter	Part #
40	240	WP 1 40 240



Gearing Modes	1000 rpm	2000 rpm	3000 rpm	3600 rpm
1 on 1	0.54 kW	1.08 kW	1.62 kW	1.94 kW
1 on 2	1.34 kW	2.69 kW	4.03 kW	4.84 kW
2 on 2	2.15 kW	4.30 kW	6.45 kW	7.74 kW
2 on 3	2.95 kW	5.91 kW	8.86 kW	10.63 kW



Coupling Modes	Air gap 1mm	Air Gap 3mm	Air Gap 5mm	
1 on 1	50 Nm	36 Nm	30 Nm	
1 on 2	64 Nm	48 Nm	40.5 Nm	
2 on 2	78 Nm	65 Nm	55 Nm	
2 on 3	82 Nm	69 Nm	60 Nm	
3 on 3	88 Nm	75 Nm	66 Nm	

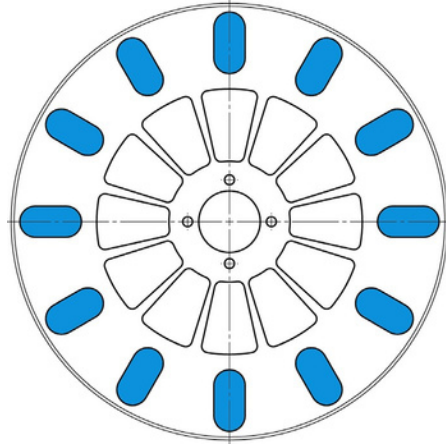
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MAG WHEEL 290



Inside Diameter	Outside diameter	Part #
40	290	WP 1 40 290



Gearing Modes	1000 rpm	2000 rpm	3000 rpm	3600 rpm
1 on 1	0.67 kW	1.34 kW	2.00 kW	2.40 kW
1 on 2	1.66 kW	3.33 kW	4.99 kW	5.99 kW
2 on 2	2.66 kW	5.32 kW	7.97 kW	9.57 kW
2 on 3	3.65 kW	7.31 kW	10.96 kW	13.15 kW



Coupling Modes	Air gap 1mm	Air Gap 3mm	Air Gap 5mm	
1 on 1	82 Nm	62 Nm	54 Nm	
1 on 2	102 Nm	78 Nm	64 Nm	
2 on 2	102 Nm	92 Nm	80 Nm	
2 on 3	106 Nm	94 Nm	82 Nm	
3 on 3	106 Nm	95 Nm	82 Nm	

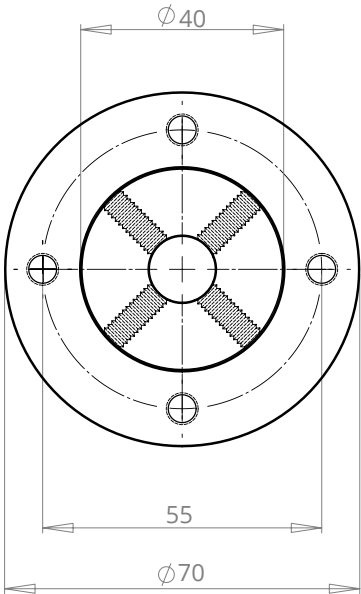
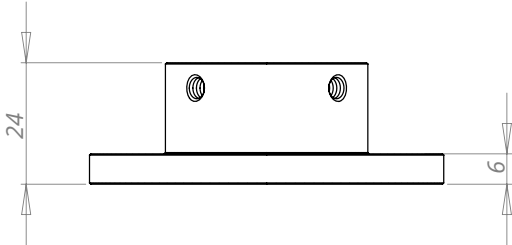
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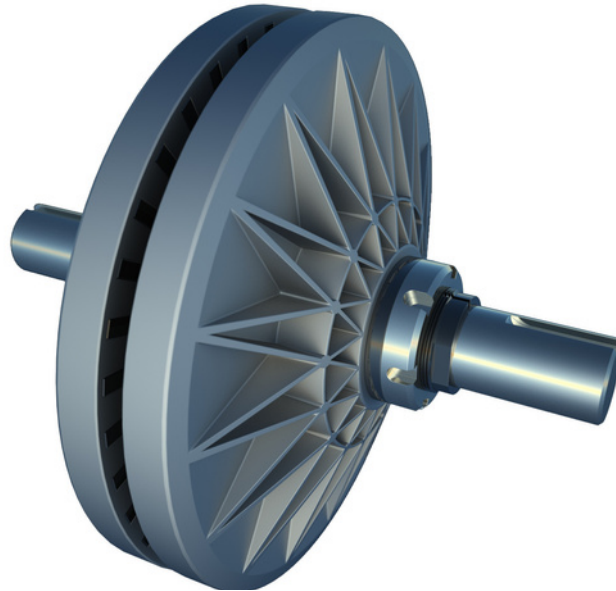
INSERTS



Inside Diameter	Outside diameter	Part #
1	4	IM 1 10 40
0	0	IM 1 20 40
2	4	IM 1 30 40

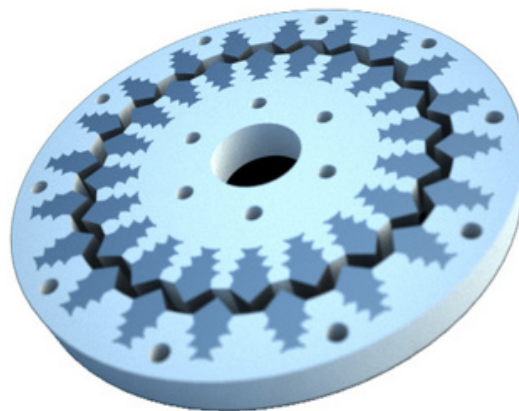
To order different size inserts, simply substitute the numbers of the part numbers. For example, if you need inserts with a 13mm ID, order inserts type IM (Inserts Metric) - IM 1 13 40.
If you need imperial sizes (say 3/8in), order "II" inserts (Inserts Imperial) - II 1 3/8 40, etc.

Product Design



The MGT Design team aims to provide clients with inspiration and advice on how and where to use the magnetic transmission. Future systems using this type of transmission, inertial energy storage concepts and end products are constantly being developed by award winning product developers and industrial designers.

The team works mainly with OEM requests and in-house product design. OEM requests are carried out under R&D agreements entered between the clients and the MGT design team.



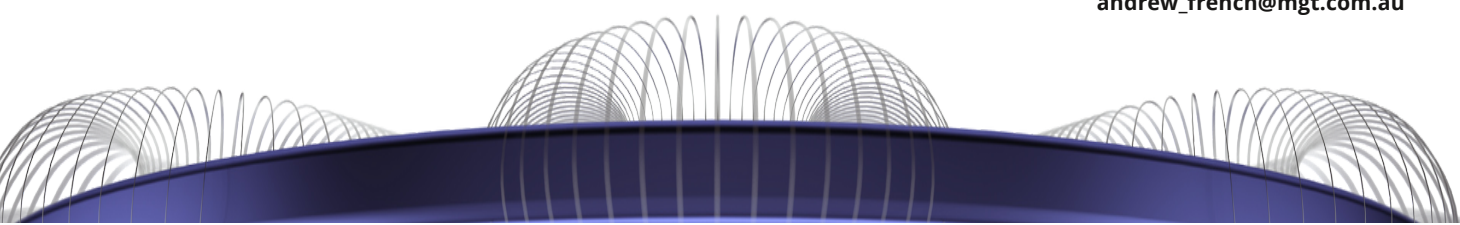
High Torque modular magnetic coupler - a part of our Industrial Range.

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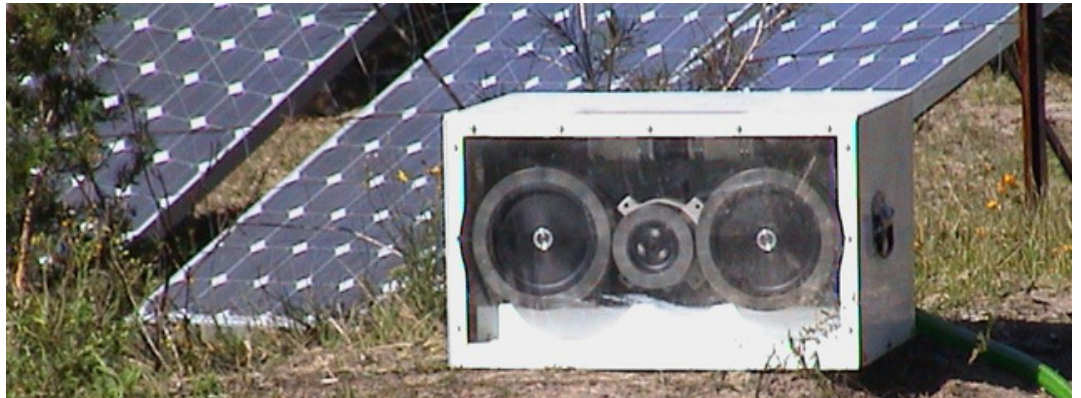
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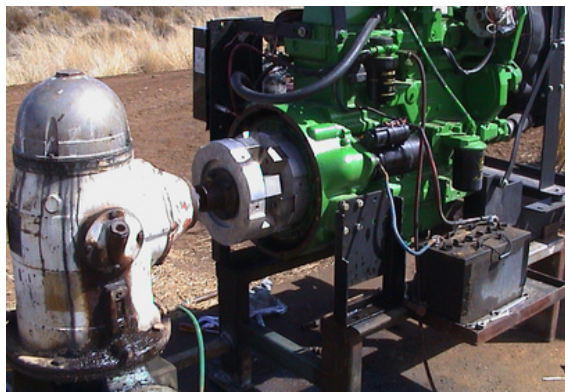
Examples



Solar Water Pump with Magnetic Transmission

Using the MGT transmission, this pump becomes 22% more efficient than its competitors. There is no wear and the assembly has an inherent magnetic slip, thus protecting all the moving components from damage. The "MGT Gusher" has been a huge success in Australia and can be exported all over the world.

This is a typical multi-drive application.



100 hp magnetic transmission used for a bore pump (John Deere).

The magnetic slip clutch stops the harmonic vibrations often encountered with high pressure pumps.

As you can see, the pump stands alone, with no connections whatsoever to the engine.

The improved efficiency of the system means that the magnetic drive will pay for itself in a matter of weeks.

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Research and Development

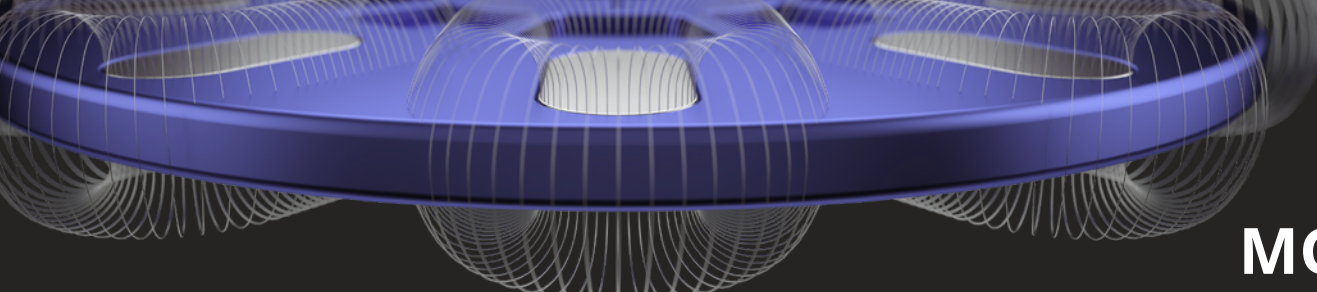
MAGNETIC DRIVES AND RELATED PRODUCTS

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MAGNETIC GEAR BOX AND COVERAGE
MGT MP 01
DO NOT SERVICE

MGT

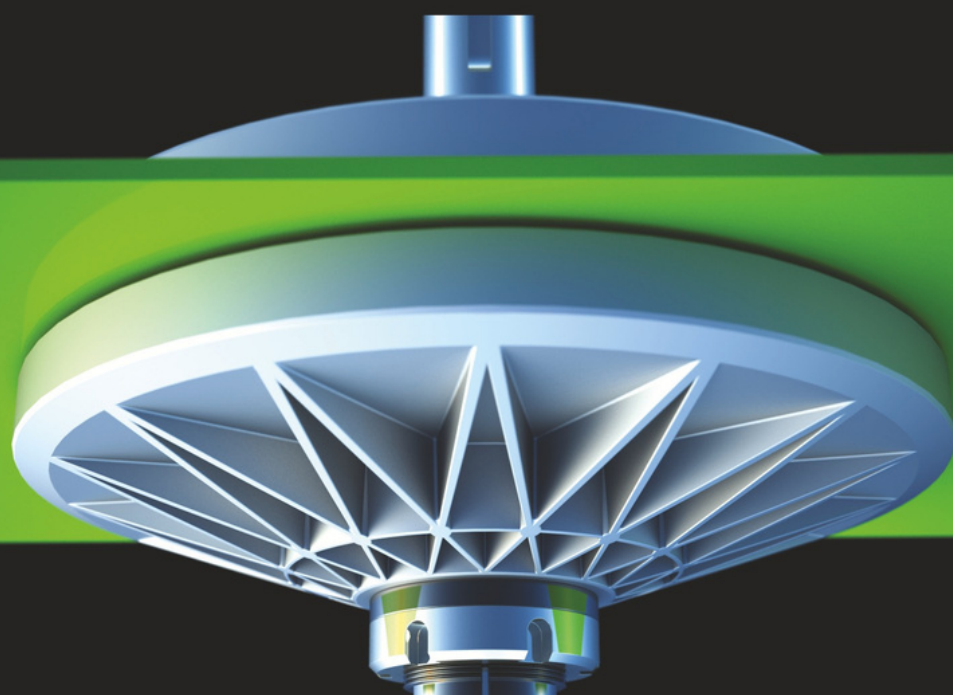
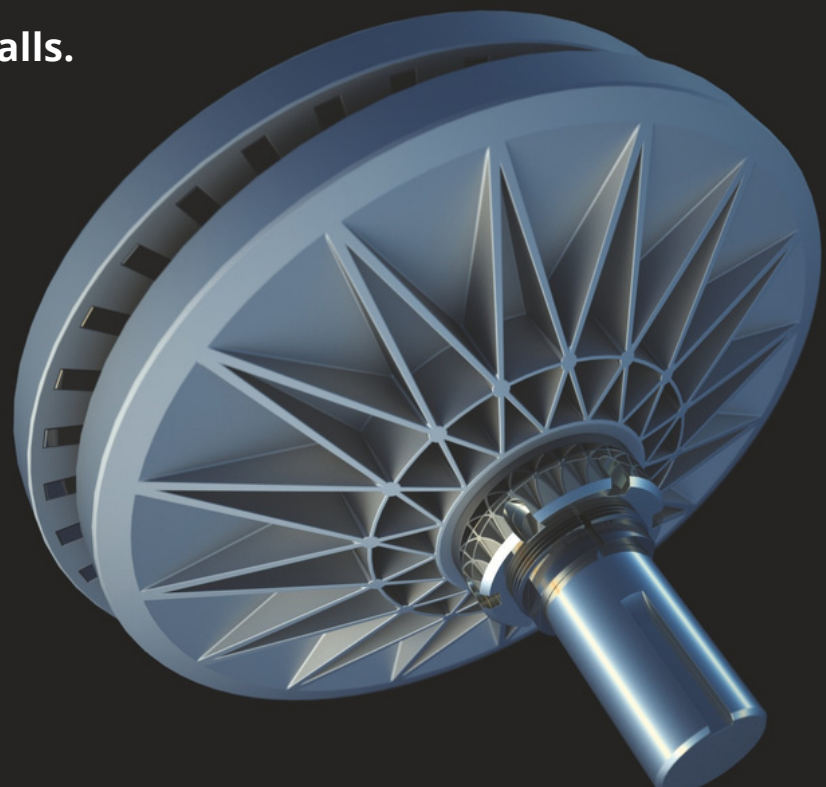
**We can work with
customers to develop
solutions that cover
their exact requirements.**

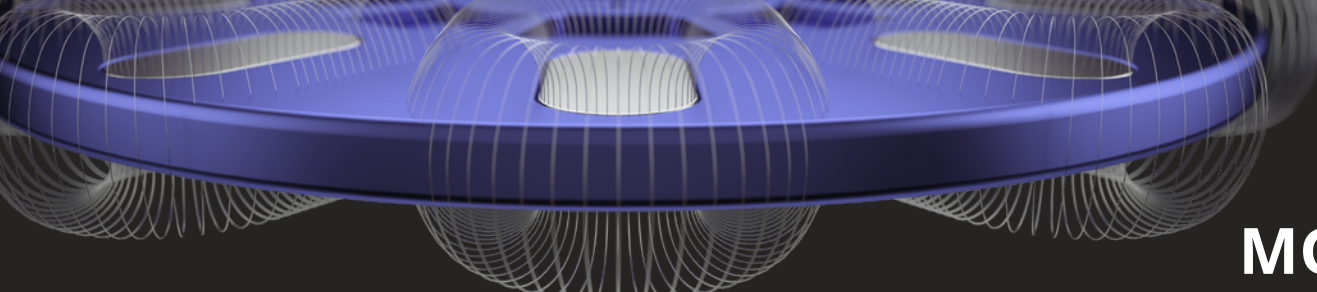


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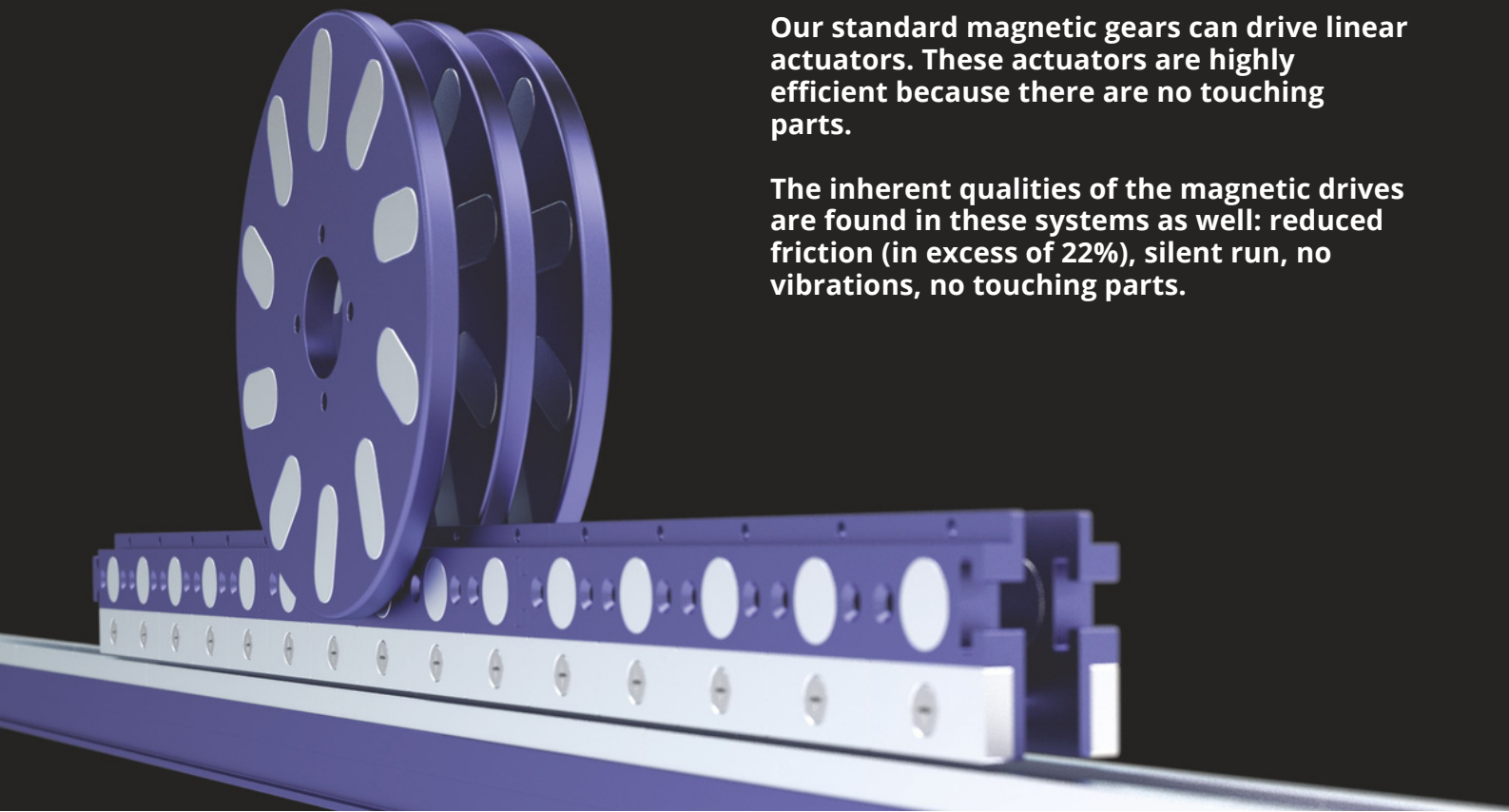
The couplers can take radial misalignment and can transfer power through walls.





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Our standard magnetic gears can drive linear actuators. These actuators are highly efficient because there are no touching parts.

The inherent qualities of the magnetic drives are found in these systems as well: reduced friction (in excess of 22%), silent run, no vibrations, no touching parts.

Local Agents or Store details go here

