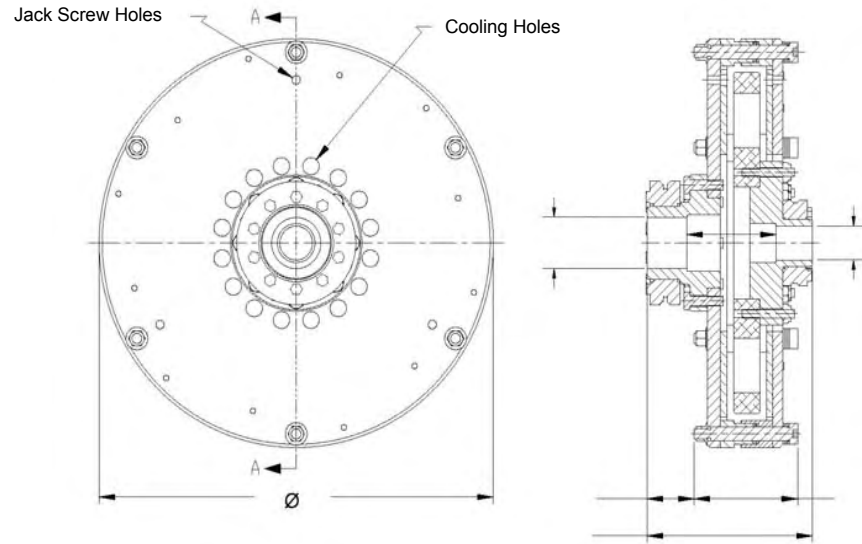


MagnaGuard FGC Coupling



Coupling Specification Data

Size ^A	Conductor Side Assembly						Magnet Side Assembly			Coupling				
	Ø	Width	A	Weight	Distance to CG ^B (min. shaft engagement)	WR ²	Weight	Distance to CG ^B (min. shaft engagement)	WR ²	DBSE ^B (min shaft engagement)	OAL ^B	Angular Misalignment Capacity (at min air gap ^B)	Power Rating ^C Hp per 100 RPM	Peak Torque (at min air gap ^B) In-Lbs
	inch	inch	inch	lb	inch	lb*inch ²	lb	inch	lb*inch ²	inch	inch	degrees		
Small Magnet Series														
4.5S	6.00	2.91	0.76	9	0.75	35	5	0.61	10	2.63	5.16	2.39	0.22	215
6.5S	8.00	2.91	0.76	15	0.75	330	7	0.61	58	1.91	4.61	1.65	0.50	484
8.5S	11.00	3.81	1.07	36	1.40	550	12	0.91	85	3.20	5.97	1.68	1.39	1,377
10.5S	13.00	3.69	1.44	55	1.38	1,165	19	0.90	195	3.23	6.29	1.36	2.78	2,667
12.5S	15.00	3.94	1.51	70	1.75	2,025	26	0.73	379	3.28	6.17	1.15	4.17	4,130
14.5S	17.00	3.69	2.19	93	1.16	3,340	36	0.60	725	2.79	6.52	0.99	5.56	6,309
16.5S	19.00	3.69	2.19	108	1.65	5,025	54	0.46	1,310	3.35	7.05	0.87	8.33	8,947
18.5S	21.00	3.94	1.77	136	1.44	7,990	66	1.30	1,900	4.36	8.00	0.77	11.11	12,045
20.5S	23.00	3.94	2.01	158	1.38	11,140	61	0.59	2,590	3.04	6.50	0.87	13.89	13,931
22.5S	25.00	3.94	3.09	201	1.55	15,650	101	0.64	4,130	4.44	9.49	0.80	16.67	17,517
24.5S	27.00	3.94	2.40	209	1.32	20,380	92	1.14	5,250	3.87	8.14	0.73	22.22	21,512
26.5S	29.00	3.94	2.40	300	1.32	28,500	160	1.14	8,480	3.87	8.14	0.81	25.00	22,918
28.5S	31.00	3.94	2.40	309	1.32	37,890	150	1.14	10,130	3.87	8.14	0.75	27.78	27,175
Large Magnet Series														
17.0S	20.75	6.38	2.25	214	2.51	10,830	91	2.12	2,590	6.00	10.38	0.84	13.89	14,353
19.0S	22.75	6.38	2.24	255	2.55	15,840	110	2.51	4,030	6.32	10.17	0.75	19.44	20,184
21.0S	24.75	6.38	2.24	313	2.55	23,000	170	2.51	6,050	6.32	10.17	0.85	22.22	23,579
25.0S	28.75	6.38	3.28	425	3.19	41,860	254	2.79	13,700	8.38	13.30	0.72	44.44	42,667
29.0S	32.75	6.38	3.37	521	3.03	69,340	284	2.05	22,560	7.37	12.88	0.74	55.56	57,757
33.0S	36.75	6.38	3.34	639	2.69	108,000	368	1.40	38,060	6.17	11.83	0.65	83.33	81,910
37.0S	40.75	6.38	3.97	844	2.44	170,610	555	1.98	67,060	7.39	14.05	0.58	111.11	110,264

^A - Single magnet rotor models only. Call MagnaDrive for double magnet rotor models with higher torque and hp capability

^B - These dimensions may vary per application

^C - Service Factor = 1.2

MagnaDrive offers a family of products to accomplish a broad range of operating objectives:

Speed Control, Torque Management, Cushioned Start, Reliability,
Vibration Control and Misalignment Tolerance.

MagnaDrive Corporation

600 108th Avenue NE, Suite 1014, Bellevue, Washington 98004

Tel. (425) 463-4700 Fax (425) 463-4747

www.magnadrive.com

MagnaDrive is a trademark of MagnaDrive Corporation. © MagnaDrive Corp. All rights reserved.

MagnaDrive™

RELIABILITY
THROUGH
INNOVATION



3 to 5,000 Hp - Up to 7,000 RPM

MagnaGuard FGC

Ideal for Applications Subject to:

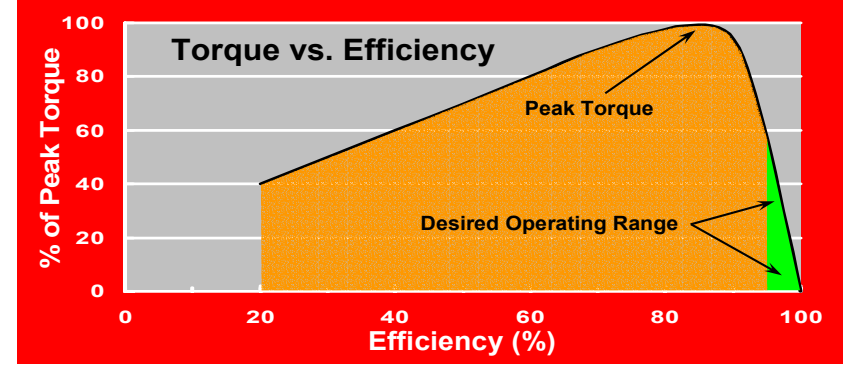
- Vibration
- Periodic Load Seizure
- Pulsating Loads
- Thermal Expansion
- Shock Loading
- Tight Space Constraints

First Generation Coupling (FGC)

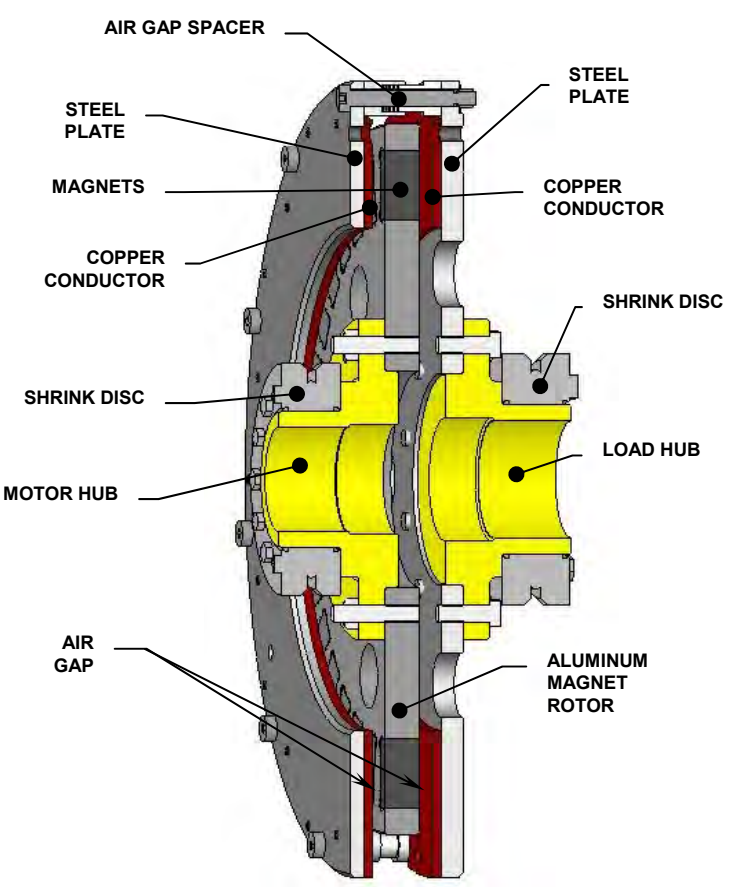
Features	Benefits
No Physical Connection Between Motor and Load	Extend life of connected equipment by preventing the transfer of system vibrations.
Accepts Misalignment	Reduced installation time. No specialized alignment equipment needed.
No Wearing or Flexing Parts	Save replacement parts expense that occurs with all other coupling designs. Lengthen MTBF.
Adjustable Air Gap Spacers	Optimize operating characteristics.
Cushioned Start / Stop	Reduce maintenance and operating expenses. Eliminate mechanical shock. Increase bearing life.
Overload Protection	Eliminate downtime and expense caused by system lockup. Enhanced operational safety.
Permanent Rare Earth Magnet Technology	Specialized MagnaDrive compounds provide higher strength than other magnets available. Long-lasting (over 2,000 year half-life) without any external energy source required.
Lowest Total Cost of Ownership	More efficient operation through reduced system maintenance. Increased system reliability and integrity.

How Does it Work?

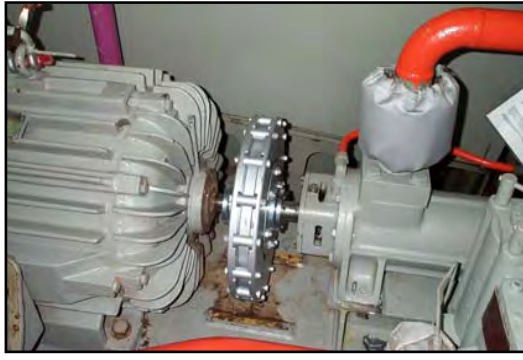
An FGC consists of two separate components that have no physical contact. A precision machined aluminum rotor containing powerful permanent rare earth magnets is mounted on one shaft. A conductor consisting of a steel housing with copper rings mounts on the other shaft. The coupling's ability to transmit torque is created by the relative motion between the copper conductor and the magnets. This motion creates a magnetic field in the copper that interacts with the permanent magnets, thus transmitting torque across the air gap. MagnaDrive products are designed to minimize Electro Magnetic Interference (EMI). The flux level from each coupling is lower than the EMI emitted by the associated motor.



Note: The above torque curve is a generalization of various sizes of magnetic couplings. Coupling selection is based on each application's speed, horsepower, and desired efficiency. Please consult MagnaDrive for proper selection based on your application's requirements



The United States Naval Sea Systems Command (a.k.a. NAVSEA) develops showcase engineering improvements for the United States Navy. Under this program, the Navy is purchasing MagnaDrive couplings for a variety of critical pump applications. MagnaDrive's FGC's have passed the Navy's rigorous 9-G Shock Test and are currently placed on guided missile cruisers, destroyers and aircraft carriers, with plans to install these couplings on pumps and other rotating equipment fleet wide, on all ship classes.



Many of MagnaDrive's couplings are placed on pumping equipment where reliability is critical to ship operations:

- JP5 Fueling
- Catapult Water
- Fire Water
- Hydraulic Elevator
- Chilled & Sea Water Circulation

The Navy spends 29 sailor-days per year per pump repairing and replacing seals, couplings and bearings on existing equipment. These repairs are nearly eliminated with MagnaDrive Technology. The Navy calculates that using MagnaDrive Technology will reduce their annual staffing needs by over 1,700 sailors. They currently operate more than 500 of these couplings. The Navy estimates that each aircraft carrier has nearly 5,000 uses of MagnaDrive Technology.

Wide Range of Applications

The following industries have benefited from MagnaDrive Magnetic Technology:

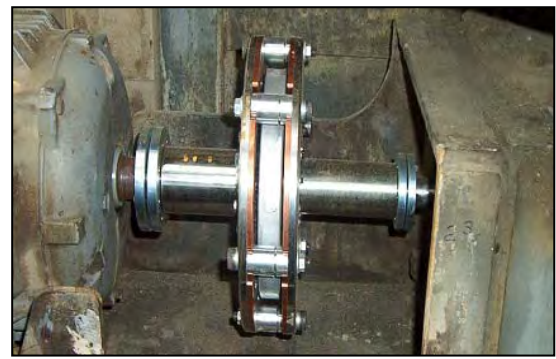
- Steel
- Mining
- Cement
- Oil & Gas
- HVAC
- Power Generation
- Forest Products, Pulp & Paper
- Water / Wastewater Treatment
- Chemical Processing
- General Manufacturing



Application Ranges

Horsepower:
3 to 5,000 HP

RPM:
Up to 7,000 rpm



FGC's are used in the following torque transfer functions:

- Pumps
- Fans
- Air Pre-heaters
- Crushers
- Blowers
- Clinker Grinders
- Re-Pulpers
- Conveyors
- Bucketwheels
- Centrifuges
- Compressors
- Bucket Elevators

And many more...

